

HOW TO KNOW
THE INDIAN WADERS

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TO MY FRIEND

MR. W. S. BURKE,

Editor, "The Indian Field,"

I DEDICATE THIS BOOK.

PREFACE.

A portion of the first part of the present work on Indian Waders and their allies appeared in the form of articles in "The Asian" newspaper, and I am indebted to my friend Mr. W. S. Burke, then editor of that journal and acting for the recently-deceased proprietress Mrs. Targett, for permission to reproduce them; and I am under a similar obligation to him with regard to most of the matter contained in the second part of the work, this having appeared in his well-known journal "The Indian Field."

I must also acknowledge my indebtedness to the *Fauna of British India* bird volumes, most especially in the matter of the vernacular names of the birds dealt with; and it is my hope that many people may find in this small publication an efficient introduction to that monumental work. At the same time, I may mention that a good deal of new information as to colours of "soft parts" (bill, feet, etc.), occurrences, etc., is embodied in the present book, so that I trust others than beginners will find it useful.

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F. FINN.

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HOW TO KNOW THE INDIAN WADERS.

PART I.—Perching Waders.

INTRODUCTION.

LEAVING out of consideration the kites and crows, and a few other very conspicuous birds, the waders may be said to be the most striking items in the bird population of India. One or other of them may be met with anywhere, for all do not affect the neighbourhood of water. Only in dense jungle are they absent, and animals which are addicted to a life in the merry green-wood are not conspicuous in any country—at any rate to the eye, though often painfully obvious to the ear.

Moreover, our best sporting birds are waders, and many of them, not at present regarded as objects of sport, might very well become so, as I shall hope later on to show. For more of these birds are good to eat than is popularly supposed, and I have personally, after a rather extended gastronomic experience, tasted few of them that I should not prefer to the ordinary fowl, that prop of the empire in Hindustan of an essentially carnivorous nation like ourselves.

I hope, however, to appeal not only to the sportsman, but also to that very numerous class who want to know “what a bird is” which they are constantly seeing. And if such, having learnt somewhat about the common birds

of their locality, wish to go further and record some rarities, the waders offer ample scope, for they are not nearly so well known as they might be, in spite of the conspicuousness of so many of them.

I have said above that all waders do not frequent watery places; hence it is obvious that all do not wade; but one must have some word to characterize a certain style of bird, and it will not do to quibble too much about exceptions. For instance, any one writing on Indian carnivora would have to include the Bears and Panda (*Aelurus*), although these are practically vegetarian; and so, on account of their similarity in structure, I shall be forced here to include some birds which carefully avoid water, because the "cut of their jib" betrays an intimate alliance with a set of mud-larking relatives.

When a man wants to wade he turns up his trousers, and he will get on all the better if he walks on stilts. Similarly, a wading bird is usually long on the leg, and almost invariably bare for a greater or less distance above the hock. The few exceptions occur among snipes and herons, birds which are not easily mistaken for anything else.

It is true that in "Stray Feathers" is recorded a pathetic story of a griffin who was discovered to be in the habit of shooting the common Pied Kingfisher, and presumably eating the same, under the impression that they were snipe! He said that he could not understand why people said snipe-shooting was so difficult; the birds *did* get away rather quickly, but if you only waited till they hovered you were bound to get them! But any one as innocent as this I have never encountered, so concerning griffins let this suffice, as Herodotus would say.

It should, however, in fairness, be mentioned that all waders which have much to do with water can swim, and that some of these are web footed, like the Avocet and Flamingo; but these have such very long legs that no one could possibly mistake them for ducks, the only birds they could be taken for. And none of the *habitually swimming* waders are web-footed as ducks are.

Apart from the bare hocks and usually long bill, there is nothing much to link the various families of waders together; and indeed they fall into two very distinct sections, which have evidently taken up a beach-combing existence independently, for except in their wading propensities their habits do not agree much, and their anatomy differs considerably.

The one party which includes the families of storks, herons, ibises, and spoonbills, are believers in educating the young in the nursery. Their young are squabs, helpless or nearly so, and are brought up in a nest—generally on a tree—like young pigeons in fact; they are fed by the old birds, who themselves are carnivorous almost exclusively, feeding on any small animals they can catch. They perch and roost on trees, and accordingly have a well-developed hind-toe to give them a grip of the branches. The size is usually larger in this section.

The offspring of all the other waders are hatched lively and active, and run about after their parents, usually finding their own food, which consists of insects and such tiny creatures, together with a certain admixture of vegetable food in many cases. The nest is generally on the ground, and the birds seldom perch. In accordance with this habit the hind-toe is generally small and useless, almost like a dog's dew-claw, and is often absent altogether. The birds of this section run smaller than those of the other but they are much more numerous in species and families. For to the adherents of the policy of making the young "paddle their own canoe" belong the plovers, snipes, snippets, rails, cranes, bustards, jacanas, finfoots, and flamingos.

The last-named family are anatomically more nearly related to the other section, but they have affinities to the ducks as well, and altogether stand rather by themselves among the birds. But as in habits and in the rudimentary hind-toe they agree more with my second division of waders than with the first, I shall treat of them at the beginning of the former.

For though I shall retain the scientific names and the families given in the *Fauna of British India* (Vol. IV), I shall not adhere to the order followed in that admirable work, my object being to furnish a ready guide to identification for the benefit of people unacquainted with ornithology.

And for this reason I shall commence with the hard-billed perching waders, which bring up their young in nests. Most of them are always with us, for few leave India altogether, though they may change their quarters with the seasons in order to be near a sufficient supply of water. They are also, from their size and striking colours, more conspicuous than the others, and though few of them are usually eaten, some of them are not altogether despised as table birds and deserve to be better known.

With regard to the distinctions of the various families of this section *inter se*, these are not at all difficult with ordinary observation.

The Spoonbill (*Plataleidæ*) is at once distinguished by its spoon-shaped beak.

The Ibises (*Ibididæ*) have long slender beaks, gently curved downwards throughout.

The Herons and Storks have straight beaks (except the Painted Stork, whose beak is only curved towards the tip), but they are not hard to tell apart.

The Herons (*Ardeidæ*) have their nostrils situated at the end of a groove which runs down the beak nearly to the tip; and their two outer front toes only are webbed at the base.

The Storks (*Ciconiidæ*) have not grooved beaks, and all the front toes are joined by a web at the base.

CHAPTER I.

STORKS.

THE STORKS—(*Ciconiidae*) are a small family of large birds found all round the world in warm regions, some species migrating during the summer into temperate climates to breed. They are conspicuous wherever they are found, on account of their size and striking colours, well seen in their slow but powerful flight, which is usually performed by regular beats of the wing, though they will often soar on expanded wings like vultures. Like all waders, they extend their legs behind in flight, and generally stretch out their necks also.

One used to read that the backward extension of the legs was to serve as a rudder, wading birds usually having a short tail. But then birds do not steer much with their tails, but rather use them to check their way when alighting or turning; and in any case a pair of long spindle-shanks would not be a very efficient rudder. Moreover, many birds with short legs and well-developed tails also stretch out their legs behind when on the wing, such as hawks and pigeons, so that explanation fails altogether.

Storks not only have long legs, but long necks and bills, and long broad wings. Their hind toes are not so long as in some of the other perching waders, but are still big enough to come well on to the ground at the tip. Their beaks are very stout and powerful, and they feed on all sorts of small animals, such as frogs, fishes, snakes, locusts, and mice. Some of them will also eat carrion, and altogether they are very useful and inoffensive birds, regarded with favour in most countries they inhabit. A few are also good to eat.

The male and female resemble each other in colour, but the latter is smaller. The young may be very like them, but more frequently have a quite distinct plumage of their own, the old birds being black, white, and grey.

They build large nests of sticks in trees in India, but one of the migratory species nests on buildings in its summer home whenever it is allowed the chance of so doing. Their eggs are few in number and white, without spots. The young are at first covered with down of a fluffy character.

Storks are usually sociable in habit, and of a genial disposition, being harmless to all other birds too large to swallow! Their windpipe is devoid of voice-muscles, and hence they are usually dumb. They have, however, invented a sort of deaf-and-dumb language in the shape of a clattering of the bill, by which they express various emotions sufficient for their purposes. Moreover, the Adjutant, by way of being as exceptional as possible, refuses to live up to its anatomical structure and insists on bellowing at the breeding-season.

Our Indian Storks are only eight in number, and are very easily distinguishable, independently of colour, which, as I said above, may vary with the age of the birds.

The *Adjutant* and *Marabout* are at once marked off by their naked necks, to say nothing of their great size.

Of the other Storks, which all have feathered necks, the *Jabiru* is much the biggest, being over four feet long, whereas the others, except the very *décolleté* gentlemen mentioned above, are well under this length, from bill to tail of course.

The *Painted Stork* has its bill gently curved downwards towards the tip, all of the others having straight beaks.

The *White-necked Stork* has a curious forked tail of dark colour, barely exceeding the under-tail-coverts in length, all the others having ordinary tails.

The *Open-bill* is distinguished by its short beak and grey or white colour combined; the bill is only about six inches long, while the other Storks have one of eight inches or

over, except the White-necked, which is a dark-coloured bird.

The *White* and *Black Storks* have no peculiarities about their necks, tails, or bills; they are medium sized as Storks go, being about a yard and-a-half long, with eight-inch bills. Thus their absence of peculiarities will sufficiently distinguish them from the others. They are the only Storks occurring in Europe, and hence *the Storks par excellence*, so it is as well to begin with them in treating of the species *seriatim*. They bear a close resemblance in size and shape, chiefly differing in colour and disposition, one being very well-known as a friend of man.

The White Stork.

Ciconia alba.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 369.

VERNACULAR NAMES.—*Laglag*, *Haji lag-lag*, *Ujli*, *Dhak*, *Ghybur*, Hind.; *Wadume kong*a, Tel.

I have given the length and dimensions of bill of this bird above, so need not repeat them; the shank is as long as the bill, measured from hock to toes; the folded wing two feet from knuckle to tip. The plumage, as the bird's name implies, is white; but all the quills are black, the secondaries more or less frosted or indistinctly edged with white. The bill and legs are bright red, and the eyes dark, surrounded by a black bare skin.

Young birds have the bill and legs much less bright in colour. This Stork is a migratory bird found at one season or another over a large part of the Old World, but not east of India. It is, as a rule, only a winter visitant to us, as it breeds in Europe and Western and Central Asia. It is commonest in Northern India, being rare to the south; but it has been found breeding in Ceylon in December.

Few birds are better known or more beloved than this in the countries where it breeds. It is the Stork of Æsop's

Fables and Hans Andersen's Fairy Tales, and of ancient Greek and modern Teutonic literature and folklore, generally—the bird that brings the babies. In the Levant it is cherished by the unspeakable Turk, who believes that it makes pilgrimages to Mecca when it goes on migration. Thus in Europe and Western Asia generally it finds a friend in man and habitually builds on houses, to the inmates of which it is supposed to bring good luck. It is certainly a very useful and picturesque bird, being a great vermin destroyer and of striking colours, but it seems to be of singularly dirty habits, for I have never observed it or any other Stork wash, and hence the purity of its plumage is apt to be very much sullied.

This Stork is credited with a very rare virtue among animals—filial devotion; and with an equally rare vice—conjugal jealousy. So firmly did the ancient Greeks believe in the care of the younger generation of Storks for their aged and infirm progenitors, that they invented the verb *antipelargein*—literally “to counterstork” one's parents—to express the behaviour of a good son. Such sons, it may be remarked *en parenthèse*, were not any too common among the said ancients. Whether the birds did really supply them with examples, I have never been able to find out. As to the Stork's jealousy, it has been famous ever since the time of Chaucer, and was supposed to be so strong that he vented it with human brutality on his erring wife—most birds being content with “going for” the co-respondent with all the energy of which they are capable. A great modern authority states that the hen Stork really is no better than she should be, and that in Spain her character is so well-known that the name of Stork is a very strong term of abuse.

In countries where this Stork does not, at all events usually, breed it is not treated with much consideration. In India it used to be the quarry of falconers, and in England it of course gets shot at sight like every other rare bird. At the Cape, however, it is well-known and appreciated as a locust-destroyer and is generally known

as the "great locust-bird." In captivity both this and the next species are very quiet and harmless, unlike many of these large waders, and they are good birds to have about one's compound, being harmless to plants, and enemies to small vermin, including mice and snakes.

The Black Stork.

Ciconia nigra.—BLANFORD, Faun, Brit. Ind. Birds;
Vol. IV, p. 369.

VERNACULAR NAME.—*Surmai*, Hind.

This bird is not so black as it is painted by its name, being bronze-green with a white belly and red legs and bill. The skin round the eye is also red, the eye itself being dark.

Young birds are dark dull brown where the old ones are bronze-green.

This species has much the same range and habits as the White Stork and is of about the same size and form; but it goes further East than its ally, occurring in China, while the White Stork is represented in remote Eastern Asia by Boyce's Stork (*Ciconia boyciana*), which is also white with black quills, but bigger and with a black beak and white eyes, the latter surrounded by a red skin, thus reversing the colour of our White Stork's features.

The Black Stork does not breed with us, but is only a winter migrant, and in its breeding haunts it is shy and avoids the neighbourhood of man.

Although they are not so numerous in India as the smaller species to be noticed after them, the giants of our Storks, the Adjutant, Marabout, and Jabiru, are nevertheless on the whole better known to the general public, being menagerie and picture-book birds. The Adjutant and Marabout are very closely related, but the Jabiru has no near kinsmen here, and the two relatives he does possess "are not near relations—their relationship is only,

homœopathic," as the Barisal pleader said in his immortal speech. One of them is found in Africa, and the other in South America.

The Jabiru,

Xenorhynchus Asiaticus.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV.. p. 372.

VERNACULAR NAMES. *Banaras*, *Loharjung*, *Lohasarang*, Hind.; *Ram salik*, Beng.; *Peria koku*, Tamil of Ceylon; *Al koka*, Cing.; *Telia-herrenga*, Assam; *Hnet-kalah*, Burmese.

This Stork would be a handsome bird if he could pull himself together a bit; as it is, he is what poultry fanciers call "reachy"—all legs, wings, and neck, with a very small body and short tail; his bill is also very large, long and thick, with a slight tendency to be *retroussé*. Unlike all our other Storks, he has the face completely covered with feathers.

The head and neck are dark glossy blue-green, the former also glossed with purple and copper; the shoulder feathers (*scapulars*) and innermost wing-quills (*tertiaries*) a band under the wing, and the tail are deep glossy green; all the rest of the plumage is white. The bill is black, and the legs red; the eyes are dark brown in the cock and bright yellow in the hen, which is likewise distinguishable by reason of her smaller size.

Young birds are brown, with white bellies and whitish rump. They always have brown eyes, whatever their sex, the hen's eyes becoming gradually yellow as she attains full plumage.

This is a very long bird, though not bulky; it is nearly $4\frac{1}{2}$ feet long, with the bill and shank (from hock to toes) a foot long respectively, and the closed wing two feet from knuckle to tip of quills.

It is usual to call this bird the Black-necked Stork, but its neck is no more black than a drake's is, and it is such a distinct-looking bird, and its African and Indian relatives of similar type bear the name of Jabiru, there appears to be no reason to refuse our species a share of the title, especially as it already has it in the live animal trade.

It ranges from India to Australia, and is resident where it occurs; it is less sociable than other Storks, usually occurring singly or in pairs. I remember once seeing a bird feeding in a pool by the railway line quite undisturbed by a passing train. It breeds in the winter months, making a huge nest on a tree, and laying four white eggs nearly three inches long. It is not a particularly savage bird, but its bite is very severe and heals with difficulty. Really the most interesting point about the species is the great sexual difference in the eyes. Such differences are common in birds, but almost invariably the cock has the bright coloured iris and the hen the dark one; and it would be worth while to keep these birds tame, and note whether the sexes differed in disposition, and if so, which was the bolder and fiercer, as light eyes in a bird so often indicate a more vicious disposition.

The Adjutant and Indian Marabout, with their ally, the African Marabout, form a very natural group or *genus*. They have the bill very large and thick, the head and neck almost completely bare, and the under tail-coverts very soft, loose textured and fluffy, so that they are used as ornaments. They have a powdery substance on their plumage like pigeons, and their legs are usually white-washed owing to their dirty habits, which they share more or less with other Storks. They show in perfection a very characteristic habit of the family, that of sitting down on their hocks. Other birds often do this too, but few so much as Storks, these bald species especially. When flying they draw their neck in instead of stretching it out as usual—possibly they are afraid of catching cold, as it is so naked and exposed. It is a curious fact that the young of

these birds are naked where the adults are; the offspring of bald birds generally starting life with a good head of hair, like the members of our own species in whose families masculine baldness is hereditary. But the Adjutant ladies are just as bald as their husbands, and indeed not readily distinguishable from them

The Adjutant.

Leptoptilus dubius.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 373.

VERNACULAR NAMES.—*Hargila*, Garur, *Pedadhauk*, Hind.; *Dusta*, Deccani; *Chaniaridhauk*, Beng.; *Pinigala-konga*, Tel; *Don-zat*, Burmese.

This huge Stork is by far the biggest of Indian birds—indeed, few flying birds anywhere can equal it in size. It measures five feet from bill to tail, and the bill and shank over a foot each; the closed wing is more than two-and-a-half feet.

The head and neck have only a few scattered hairs, and the latter is provided with some loose skin where it joins the shoulders, and with a pouch in front just above the breast; both are distensible, the inflated pouch reaching well over a foot. It does not communicate with the gullet, and hence is *not* a “hold-all” as commonly supposed. It can, as above observed, be blown out with air, but no one knows the use of it as yet.

The plumage ought to be black, but is really slate-colour in the living bird, owing to the powdery film which covers it; there is a broad band of pale grey on the wing, formed by the greater wing-coverts and inner quills: but they only have this hue during the breeding season. The under plumage is white, the downy tail-coverts mixed with black. A white downy ruff encircles the base of the neck. The beak is dirty flesh-colour, the eyes white, the

head and inflatable skin reddish, shading into yellow on the neck between. The end of the pouch is spotted with black and the forehead black and scabby looking. The legs ought to be blackish, but are not, unless the bird has recently been in the water; they are white as a rule for reasons above detailed. *Young birds* have a brown wing-band and dark eyes.

Altogether the Adjutant looks a disgrace to the Service—a repulsive old reprobate, and it is not surprising to hear that he, although capable on occasion of earning his living in the wilds like other Storks, is more addicted to hanging about habitations in search of carrion and offal, which he devours with appalling greediness, bolting small cats and large bones whole. At a carcase even the lordly King Vulture makes way for him, and the crow has to look out if he does not wish to be taken as an *entrée*. Adjutants used to be a great institution in Calcutta in the rains, but for many years they have deserted the place owing to better sanitation, although one bird at least lingered till quite recently when he was wantonly shot by some destructive idiot who was pretty warmly censured in the papers for such a silly act, as the poor Stork was half tame. As I was able to notice in this bird, Adjutants get under way with considerable difficulty, having to take several jumps before they get fairly started; but once on the wing they fly very strongly, and may be seen soaring among the vultures at a great height in the air.

They never bred near us in Calcutta, their breeding haunts being in Burma, although a few have been found nesting in India, even in the Sunderbunds. The nest is, of course, very large; the eggs three in number, and about three inches long, white in colour. As above remarked, Adjutants bellow a great deal in the breeding season. Outside India they range eastwards to Borneo.

The name *dubius* applied to this bird may puzzle many people; but it was first described as a Heron, and doubtless appeared to its describer rather a queer and doubtful relative of that bird.

The Indian Marabout.

Leptoptilus javanicus—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 374.

VERNACULAR NAMES.—*Chinjara*, *Chandana Chandiani*, *Bang-gor*, *Chota-garur*, Hind., *Madan-chur*, *Modun-tiki*, Beng.; *Tokla-moora*, Assam; *Dodal-konga*, *Dodal gatti-gadu*, Tel.; *Mana*, Ceylon; *Don-mi-gwet*, Burmese.

This bird, often called the Hair-crested Stork or Lesser Adjutant, is considerably smaller than the Adjutant proper, and has no pouch. In compensation it is not so bald, having quite a respectable amount of feathers at the back of the head, which plumage is of a dark brown colour. The general hue is green-black, becoming green-slate by reason of the powdery coat; the shoulder feathers and innermost quills are edged with white, and all the underplumage, except the black wing-lining, is also white, including the fluffy under tail-coverts, which are longer than in the Adjutant.

The bill is dirty cream-colour, the eyes whitish, and the complexion of the bare parts a nasty sallow tint, not very different from the Adjutant's; as in that bird also the legs ought to be black, and are not. Some birds show a row of coppery spots on the wing, which may possibly be a sign of full breeding-plumage.

Young birds are better feathered about the head, but have similar plumage to their parents, without the white wing edgings; their eyes are dark. The length of this species is four feet and-a-half, with the bill a foot long, rather longer than the shank. The closed wing measures over two feet.

As the downy under tail-coverts of this bird are commonly sold as Marabout feathers, and as it very closely

resembles the African Marabout in appearance, I think they ought to share the same English name. The African Marabout (*Leptoptilus crumeniferus*), however, has a pouch like the Adjutant. The Indian species is found, but not commonly, over most of India, throughout Burma and eastwards to Borneo. It has thus much the same range as the Adjutant proper, but it is a much more respectable bird, not being a garbage-worrier, but fishing for itself far away from civilization. Near Moulemein it breeds later than its large relative, and in Ceylon from February to April. Its eggs are of course smaller.

The remaining Storks stand alone among Indian members of their family, though each of them has foreign relatives which share their peculiarities.

The Painted Stork.

Pseudotantalus leucocephalus.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 376.

VERNACULAR NAMES.—*Janghil*, *Dokh*, Hind. ; *Kat-sarunga*, *Ram-jhankar*, *Sona-janga*, Beng. ; *Lungduk*, Sind ; *Yerrickali-konga*, Tel. ; *Singanareh*, Tam. ; *Changaveelanary*, Tamil of Ceylon ; *Datudurwa*, Cing. ; *Hnet-kya*, Burmese.

This is a very distinct-looking bird, owing to its rounded and tapering bill, gently but distinctly curved downwards towards the end. The head is bare to behind the eyes, but the neck is well feathered. The bird, when standing, keeps its beak bent down on the neck.

The plumage is mostly white, but most of the quills, the tail, and lining of the wing are a glossy green-black, and a band of this colour also crosses the breast. The small feathers of the flat of the wing are black with white

edges, and the innermost quills rose-pink, also edged with white.

The bill and face are orange-yellow, the eyes pale yellow, and the legs brown. *Young birds* are brown with a white belly and dark quills and tail. This bird is about the size of the White and Black Storks, but has a longer bill, this measuring ten inches.

It is found as a resident all over India, except in the Punjab, and also in Southern China and Cochin China. But in the Malay Peninsula and Islands, it is replaced by the allied species *Pseudotantalus lacteus*, which has no pink on the wing or black on the breast. Our species used to be called the Pelican Ibis, but, as Dr. Blanford very mildly puts it, that name involves error—the bird not being either Pelican or Ibis! It rather reminds one of the definition of a crab by the compiler of a dictionary, as “a red fish that walks backwards.” The proud originator of this diagnosis submitted it to a naturalist friend, who informed him that he only had three criticisms to make thereon, *viz.*, that a crab was not red, was not a fish, and did not walk backwards! The Painted Stork, like his relatives generally, is interested in both crabs and fish. It sometimes pursues its piscatorial pursuits alone, but breeds in company, often on trees near villages. Its nest is rather small for so big a bird, and it may lay a great many eggs for a Stork, even up to eight; but four is the usual number. The young, like those of Storks in general, are easily tamed, and look very funny as they sit on their hocks with their wings open but not spread, bowing grotesquely and wheezing as they beg for food. The young of the Marabout do the same.

The Painted Stork, with his sallow countenance and partly bald head, looks a most woe-begone bird, but he can give a good account of himself nevertheless, and at the Calcutta Zoological Garden it has been found possible to leave him and all his beforementioned relatives out at night, while the next two species, being considerably smaller, have had to be housed for fear of jackals.

The White-Necked Stork.

Dissura episcopus.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 370.

VERNACULAR NAMES:—*Manik-jor*, *Lag-lag*, Hind.; *Bagala*, Mar.; *Sanku-budi-konga*, Tel.; *Mana koku*, *Vanatay koku*, *Padre koku*, Cing. *Chi-gyin-sut*, Burmese.

The bird is very closely related to the white and Black Storks (genus *Ciconia*), a fact obvious to natives (who often have very sharp eyes for birds' affinities) since they have given the name *Lag-lag* to both this species and the white. Like that bird, the present one has a feathered crown and bare throat, but the face is more extensively naked, and the neck covered with down instead of true feathers. The wings are proportionally longer than in the Black and White Storks, and the tail is short, black, and forked, while the white under tail-coverts are large and stiff and look like the real tail.

The plumage is bronze-green and purple, with the neck, belly and tail white, and the crown black. The bare face is muddy slate, the bill black touched with red along the ridge and tip, and the legs dark dirty red.

Young birds are brown where the old ones are bronzed, and their neck-plumage is more fluffy.

This is a small bird for a Stork, being only a yard long with the bill and shank only just over six inches respectively; but the wings are large, being twenty inches from knuckle to tip when closed.

It has a wide range, being found in India, Ceylon and Burma, eastwards Celebes; it has also been seen in Yarkand in Central Asia, where it is migratory. But normally it is a resident where it occurs. It is not found in the Punjab, and has only once been got in Sind.

It breeds in June and the two following months in upper India, but about Christmas time in the Deccan; its ideas of house-keeping are somewhat luxurious, as it

builds a large nest, and lines it with down and feathers, or mixes these with straw and leaves. The eggs are four in number and about two and-a-half inches long; they are of a bluish-white colour.

This is a common bird, and although not a migrant a fine and powerful flyer; it is often known as the beef-steak bird, the cuts from the breast, if dressed as a steak, serving as a substitute for that too often unattainable item of the Englishman's bill-of-fare in the East. Probably almost any clean-feeding big bird would be worth experimenting with in this connection.

The Open-bill.

Anastomus oscitans.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 377.

VERNACULAR NAMES:—*Gungla*, *Ghongau*, *Ghongila*, Hind.; *Dokar*, Behar; *Tonte-bhanga*, *Shamakh-banga*, *Samak-khol*, *Hammak-kas*, Beng. *Pauna konga*, Southern Gonds; *Galukonga*, Tel.; *Natte kuti narek*, Tamil; *Karunary*, Tamil of Ceylon.; *Gombelle-koka*, Cing., *Kharutsoke*, Arrakan.

This is the smallest of our Storks, being well under a yard long. The beak is very peculiar, being narrow but deep, with a gentle downward inclination. In the middle the edges gape, and there is a horny fringe along the edges of the upper chap at the end; but this requires looking for. The toes are longer than those of Storks generally. The face and throat are naked, but the forehead feathered. There is a change of plumage after the breeding-season.

In full feather this bird is white except the tail and wings, which are glossy green-black, except the small feathers of the latter. After the moult the white becomes a dirty looking grey, which changes again to white in due course, but this time without a moult—the ordinary plu-

mage being as it were bleached for a wedding garment. The bill is light horn colour, the eyes grey or light brown and the legs flesh colour. The wing is under seventeen inches, and the shank under six. *Young birds* present some important differences. Their plumage is like that of old birds when in undress, but browner on the back; the face and throat are completely feathered except a streak from the bill to the eye, the said eye being dark, and the bill is much shorter than in old birds, does not gape in the middle, but fits accurately throughout, and is black in colour. Mr. F. E. Beddard, Prosector to the Zoological Society, who has lately dissected the bird for the first time, finds also that in a young bird there are no horny growths inside the tip.

This species used to be called the Shell-Ibis, but Dr. Blanford has very properly changed the name to Open-bill, as the bird is certainly a Stork and not an Ibis. It does, however, differ from other Storks in feeding almost exclusively on shell-fish, and for this reason is not very easy to keep in confinement on other food, whereas most Storks will thrive well on any animal garbage, and even eat cooked vegetable food. Birds of the present species sometimes extract the mollusc from its shell whole as Jerdon states, and as I have seen; but the shell may also be broken or crushed by them, and it is this habit which is said to cause the bill to gape in time. I have seen the bills of captive larks worn away similarly by too much cracking of seeds; but in this case it was chiefly the upper chap that suffered, while in the Open-bill it is stated to be the lower. But a bird that grew up in the Calcutta Zoological Gardens, where it could hardly have got enough shell fish to grind down its beak, also showed the gaps; and I am inclined to think that it is a natural malformation, similar to what occurs in the coarser-billed breeds of tame pigeons, such as the Bagdadi or Dragoon and the Carrier.*

* A writer in the "Feathered World" states that if two extra stout billed Carriers are paired, the young are likely to show this defect.

My late chief, Major Alcock, I.M.S., tells me that he used to hear this bird called the Beef-steak bird, and found it excellent eating when cooked in the ordinary way. This is a fact worth knowing, as the bird is common and easily obtainable. It ought to be good, feeding as it does on molluscs, which are such a favourite food with ducks. No doubt it would thrive well if allowed the run of a pond well supplied with water snails, and would be worth keeping for the table.

This Stork is found in India and Ceylon generally, being especially common in Bengal; it is also common in Assam and Manipur, and is found in Arrakan and rarely in Pegu, but not elsewhere in Burma. It breeds on trees in flocks, laying two to five white eggs, in July and August in Northern India, and January to March in Ceylon.

CHAPTER II.

IBISES AND SPOONBILLS.

THE IBISES—(family *Ibididæ*) are birds generally of rather heavier build than is usual with the waders of the present section; they do not stand very high on the legs, the bill being considerably longer than the shank from hock to toes. It is curved downwards throughout, a peculiarity which will distinguish the Ibises from any other wading birds except the Curlews; and in consequence of their common possession of a Roman nose the two groups are often confounded. Curlews, however, have a short useless hind-toe and streaky plumage; while in Ibises the hind-toe is well developed as usual in their section, and the plumage is always, in Indian species at least, nearly self-coloured. The breeding habits also differ, the Ibises being tree-builders with inactive young, while the Curlews build on the ground, where their chicks run at once; they are, in fact, simply overgrown sand-pipers.

Ibises are birds of medium size—somewhere near that of a fowl—and active habits. Their food consists of small animals, such as shell fish, insects, &c., but they will also eat vegetable food freely in confinement, including even grain. They are very easily tamed and kept, and will breed freely and live long in confinement. They are not spiteful, though their long bills enable them to successfully keep other birds at a distance in the literal sense. All are good to eat, and as they are so readily tamed and bred might very well be domesticated in warm climates, to which they are mostly restricted as residents; they occur all round the world.

They are often sociable when nesting, and the young are downy and have a quite short and nearly straight beak. They begin to clamber about the boughs before they are fully fledged, and the old ones feed them just like pigeons, taking the beaks of the squabs into their own. As the young fledge and grow a long beak, they chase their parents with flapping wings like young pigeons, and uncereimoniously ram their long bills down their throats and exact contributions in what looks a most uncomfortable way, for they do not believe in squatting on their hocks and gaping and blaring for nourishment like young Storks. Their first plumage is not quite like that of their parents, but these resemble each other closely, not differing according to sex, except in size. The eggs may be either plain or spotted.

Ibises fly like Storks, with the neck outstretched, but with a quicker stroke of the wings and frequent intervals of sailing with the pinions held level, so that they are easily distinguished from other waders when on the wing. They do not sit about on their hocks like storks, and they perch much. They possess voice-muscles, and make a considerable noise at times.

Ibises are a fairly numerous family, but only four species are found in India, so that their discrimination is an easy matter.

The *White Ibis* is at once distinguished by its colour, the *King or Black Ibises* (two species), by their tails being longer than the bill.

The *Glossy Ibis* is also a dark bird, but has the tail markedly shorter than the bill.

The White Ibis.

Ibis melanocephala—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 361.

VERNACULAR NAMES.—*Munda*, *Safed buza*—*Didahr*, Hind. ; *Kacha-tor*, Purneah ; *Sabut*, *buza*, *Do-chora*, Beng., *Tatu-koka*, Cing. ; *Kayusoti*, Burmese.

The white Ibis is the most heavily built of our species, with a coarse stout bill and strong feet. Adult birds are bald on the head and neck, and on the skin covering the wing-bones beneath. The skin here is blood-red, but on the head and neck it is black, as are the bill and feet ; the eye is also dark. The plumage is white, with the inner quills slaty-grey.

In full breeding plumage these grey feathers have long lax webs, and some pointed feathers decorate the breast ; a yellow wash also pervades the general plumage with an effect which is the reverse of ornamental in our eyes, as it looks like an egg stain. *Young birds* are only bald as far as the eyes, the head being blackish grey, passing into the white feathering of the neck. When they have just left the nest the bill is still flesh coloured as it is in the nestling and has by no means attained its full length.

This Ibis is about two and-a-half feet long, with the wing fourteen inches, shank four, and bill a little over six.

It is found in suitable, *i.e.*, watery, places all over India, Ceylon and Burma, and to the East extends to China and Southern Japan. It is usually in flocks, except in the breeding season, and even then several pairs often nest together. There are generally three eggs, but there may be one more or less, about two and a half inches long, and white tinted with blue or green and sometimes spotted with yellowish brown. The birds feed on shell-fish, insects, &c. They stand captivity very well indeed and

breed in the fine water-fowl aviary at the Calcutta Zoo, together with the splendid scarlet Ibis (*Eudocimus ruber*) of tropical America. This latter bird is sometimes mistaken for the Sacred Ibis of ancient Egypt, but it was, of course, unknown to the ancients, the Sacred Ibis (*Ibis æthiopica*) being a close ally of the Indian White Ibis, but easily distinguishable by the purple-black inner quills, which are very loose and plummy, and the pinkish legs.

I have tried the White Ibis, both full grown and young, as food, and found it tolerable, though not exactly a delicacy. There is no noticeable fishy flavour, but the meat of the adult bird is very solid and close grained, though not stringy or tough. I certainly gave it a fair trial, for with a friend who was living with me, I tried roast Ibis, stewed Ibis and Ibis pie! The young bird I got was one reared in the Calcutta Zoological Gardens in the spring of 1901, which was growing up hopelessly rickety and crippled, and had to be killed. It was tenderer than its seniors, and somewhat between duck and pigeon in taste, but not up to a good sample of either, as was to be expected from its poor condition.

Ibises of this kind are rather noisy when breeding, making a hoarse croaking sound. They pair after the manner of pigeons, chewing each other's beaks meanwhile, and they seem singularly good-natured and free from jealousy, judging from the fact that I have seen an immature bird in the Calcutta aviary look on at the amatory performances of his elders without making the slightest attempt to disturb them.

Two of our species of Ibis are called Black Ibises, on account of their dark plumage, though this is not really black. But as the Glossy Ibis is just as dark, and as the best known of the present two is often called the King Curlew, it seems as well to call them King Ibises, so as to change the popular name as little as possible. Curlews, of course, they really must not be called. These two birds, forming the group or genus *Inocotis*, are distinguished by their comparatively short legs and small feet;

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they do not look any more stilted than a crow. Their tails are also long for a wading bird's, being longer than the bill, whereas in other Ibises they are distinctly shorter. The bill itself is slighter than in the White Ibis. Both are bald when full grown, but only on the head, and the young birds have this also partly feathered.

The Indian King Ibis.

Inocotis papillosus.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 362.

VERNACULAR NAMES.—*Buza*, *Kala buza*, *Karankal*, Hind; *Nella kankanum*, Tel.

This bird is very dark brown, with glossy dark purple-green wings and tail, the wings ornamented with a white patch near the "shoulder." The bald head is black, with a red patch of pimples covering the back and top thereof; the bill is greenish-grey, the eyes orange red, and the legs dull red.

Young birds, besides lacking the peculiar insignia of royalty above mentioned—the head being feathered on crown and throat—have their general plumage edged with pale brown on the body. This bird is about twenty-seven inches long, thus being smaller than the White Ibis; but it has a longer wing, this measuring about fifteen inches. The bill and shank are shorter, being five and-a-half and three inches respectively.

The present species is mostly confined to India, but it does not occur in the Himalayas, Lower Bengal, or south of Mysore. To the east it has been obtained in Mymensingh, and, it is said, in Arrakan.

It is not much of a wader, being generally found on dry ground. Thus its food largely consists of insects, and, as I am told by Major H. Brown, I.M.S., it is known in some districts as the "Planter's Friend" on account of its

usefulness in destroying vermin, which its long bill enables it to reach easily in the ground. Hence it is a bird to be encouraged, especially as it is much better eating than the White Ibis. This is, no doubt, because it feeds partly on grain.

It breeds in trees as usual, and is not above borrowing the nest vacated by another bird. The eggs are generally spotless, and are sea-green in colour, and nearly two and-a-half inches long. They are three or four in number. The breeding-season ranges from February in Ceylon to August in Northern India.

The Burmese King Ibis.

Inocotis davisoni.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 364.

This is a rather bigger bird than the Indian species, especially as regards the bill, but it is of the same colour; there is, however, no red patch on the crown, but, instead, a broad bluish white ring just above the feathering of the neck.

Young birds appear to be like those of the other species, so the best distinction in their case is the size, the wing of the Burmese bird being an inch longer than its ally's, and its beak reaching the length of seven inches.

This bird is resident in Pegu, but migratory in Southern Tenasserim; outside Burma it is found in Siam and Cochin China. It is found solitary or in pairs in open places. Mr. Oates found it building in February, in a tree. There were two pale blue eggs, rather larger than those of the Indian King Ibis.

The last of our Ibises is also the least, being not only smaller, but slighter in make than the rest, with longer legs and toes for its size. It never suffers from baldness at any age, having merely a naked streak from the bill to the eye. It is found over a large part of the warmer regions of the world.

The Glossy Ibis.

Plegadis falcinellus.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 364.

VERNACULAR NAMES :—*Kawari*, *Kowar*, *Chota buza*, Hind.; *Kala kachiatora*, Beng.; *Tati kankanam*, Tel.; *Karapu kotan*, Tamil of Ceylon; *Rattu datoduwa*, Cing.

Small though it is, this bird exceeds our other Ibises in beauty, being not only more graceful and delicate in form, but more richly coloured. The general hue is a rich deep bay or reddish chocolate, with the head, wings, and tail, rich dark bronze-green and purple. A patch near the bend of the wing is also red.

This is summer plumage; in winter there is no red on the wing, and the head and neck are dingy black with white streaks, giving a grizzled appearance. *Young birds* have sooty heads and necks, and do not show any red at all, even the under-parts being brownish black.

The bill, legs and eyes are brown, and the bare skin of the face dark, with a bluish-white border extending right round the eyes. The length is only just over two feet, with the wing less than half that. The shank, however, is as long as in the big White Ibis.

Small species often seem to be the Benjamins, so to speak, of Nature's family, and to be especially favoured, and the present is no exception, for it certainly has a very wide distribution, either as a resident or a migrant. It is occasionally found in England, where it used to be called the Black Curlew. It is common in well-watered parts of our empire, being a marsh bird, and even frequenting the sea-coast. Most of the individuals found in India are winter visitors, but it has been found breeding in Sind in June, and in Ceylon between November and February. Three eggs, of a beautiful blue, and just over two inches long, are usually laid. This bird breeds well in captivity, as anyone may see at the London Zoological Gardens, and is

excellent to eat, so that it would be well worth domesticating. It was known to the ancients, for Herodotus expressly distinguishes it as the Black Ibis from the White *Ibis æthiopica*, and says it was the real sacred bird.

Ths Spoonbills (family *Platuleidæ*) do not really differ from the Ibises in any important point, the beak, broad and flat though it is at the tip, not being sufficient support for a family! There are only a few species, and of these only one is found in India, which the natives, with a discrimination which does them credit, have called the Spoon Ibis. Ibises and Spoonbills are, indeed, so nearly related that they have been known to interbreed, there being in the Berlin Zoological Gardens a hybrid between one of the White Ibises and a Spoonbill, which has the body of the latter bird and the bill of the former, only slightly flattened towards the tip. How this compromise would get on in a state of nature is an interesting question.

The Spoonbill.

Platalea leucorodia.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 366.

VERNACULAR NAMES :—*Chamach buza*, Hind.; *Chinta*, Beng.; *Gentu muku konga*, Tel.; *Chapy chundun*, Tamil of Ceylon.

The Spoonbill has the sides of the face and the throat naked, and a long full crest of pointed plumes in the breeding season. At this time also there is a cinnamon patch on the breast, which at other times is pure white like the rest of the plumage. The bill and legs are black, the face and tip of the bill yellow; the bare throat yellow, running into red below.

Young birds have, of course, no crest; their flight feathers are tipped with blackish, and their bills, which are not at first so distinctly spoon-shaped as those of their elders, are all dull yellow.

The Spoonbill is bigger than any of our Ibises, being nearly a yard long; the wing measures fifteen inches, the shank six, and the bill eight. It is slighter and more leggy than most Ibises.

It is found nearly all over the warm and temperate regions of the Old World, but appears to do best in hot climates, as it is resident in India, and eastern specimens are larger than western. It is a marsh bird, feeding in water somewhat like a duck, and on both animal and vegetable food. It builds, however, a nest of sticks on a tree, where the young remain and are fed by the parents. Several usually breed together; the eggs are white and indistinctly spotted. The breeding season varies according to locality, beginning, in Ceylon, in March, and ending, in November, in Sind. Spoonbills are good to eat, but they do not thrive in captivity so well as Ibises, no doubt needing more varied and delicate food. They used to breed in England, where they were known as Shovelards. Protection is bringing them back again in places, and they have apparently acquired the new name of "Banjo-bills"! This is rather appropriate, and certainly obviates any possible confusion with the Shoveller Duck (*Spatula clypeata*), which might have been the case with the old name.

CHAPTER III.

HERONS.

THE last and largest family of the big perching waders that we shall have to consider is that of the Herons (*Ardeidæ*). Few birds are more recognizable at sight than these, although they may be as small as a Mynah or as large as a Stork, and vary somewhat in proportions and feathering. As I pointed out in the introduction, they are most easily identified on the wing by their habit of flying with the neck drawn in, unlike all other long-necked birds except the Adjutant and Marabout; and these Storks are so bald and so stout in the beak that there is no mistaking them for Herons at any reasonable distance. Moreover, their beaks point rather downwards at such times, while the Heron's bill looks straight forward. The large Herons fly with steady flaps of the wing, seldom sailing except when about to settle and keeping the tips of their wings bent down when they do "easy" for a space; whereas the Storks keep their wings flat or even curving up at the like most large birds. The small species have a much quicker flight.

A Heron in the hand, however, presents some still more marked points of difference. The bill, though straight like that of most Storks, is not nearly so stout, being always flat-sided or dagger-shaped, its owner being a professional assassin and very ready with his weapon; moreover, there is always a long groove running from the nostril nearly to the tip of the bill. There is also a difference in the feet; the slight web at the base of the toes found in so many birds is, in the Herons, confined to the two outer ones, whereas in the Storks and Ibises it also joins the two

inner. The hind toe of the Herons is better developed than in any other waders, and is set on low down, quite flush with the front ones; thus they have a powerful grip, and perch more easily than any other waders. There is a comb on the inner side of the middle claw, with which Storks and Ibises are not gifted, though Storks, at any rate, look as if they wanted a lot of scratching. The gape of the Heron's mouth runs back well to the eyes, which are almost always yellow, and look forward, giving the bird a very fierce expression, which its manners amply justify. For as a family Herons are cantankerous to a degree, although they are more or less sociable at the breeding season, when they set up their establishments, usually on trees, within easy quarrelling distance of each other. They are really brave, too, and fight to the death when wounded, so that it is sheer cruelty to send a dog after any of them, and foolish to approach the larger species one's-self without a stick, as they aim for the eye, and from long practice in fishing are uncommonly good shots. Besides fish, they will take crabs, frogs, and insects, to say nothing of small beasts and birds; but they do not hunt about for prey as a rule, but wait for it to come to them, standing with their necks drawn in and their bill "at the present." Indeed, they would have a difficulty in keeping their necks in any other position for long, as the vertebræ are so constructed as to cause a natural kink therein. Whether, as Mr. Hudson, the delightful author of "*The Naturalist in La Plata*," &c., thinks, a Heron never gets enough to eat, I don't know. They certainly look as if they did not, with their lean fierce heads and meagre slab-sided bodies, and their sourness of disposition *may* proceed from that hope deferred that maketh the heart sick. They cannot be so very badly off, however, or they would not be so common; for there are many species, found all over the world, though mostly in hot climates, and when they are not persecuted they are very numerous. Only one of our species, the common bittern, is a migrant with us; but they are well qualified

for long journeys, owing to their light weight and large rounded wings. Their tails are always short and inconspicuous. They are never bald like some Storks and Ibises, but always have a bare streak from bill to eye. Their plumage is handsomely coloured and coated with a film of powder secreted from natural powder-puffs in the shape of patches of a peculiar down on each side of the rump and breast, such "powder-downs" not being found in our other waders. Male and female are alike as a rule, but the young are usually more or less different, and the old birds are addicted in many cases to assuming magnificent wedding-garments in the shape of ornamental plumes.

The squabs are clothed as nestlings with a scanty coat of hairy-looking down, particularly long on the head, and look very different from the young of any other waders. They are noisy little things, their cry sounding, most appropriately, like *get, get, get!*; and the parents have considerable vocal powers, unlike the silent Storks. The eggs are unspotted, and pale blue, green, or white in colour; the nest is made of sticks or reeds.

Our ancestors used to consider Herons good eating, and so do many natives now-a-days; but of course they are not usually considered as articles of food. Except where fish are preserved they do not do any harm, and they are certainly great ornaments to a landscape, so it is a great pity to kill them, except for scientific purposes, or to give some poor fellow a meal of what he is pleased to regard as game!

As there are no less than twenty-one species of the Heron family found in India, their identification might seem rather a formidable task; but it is not really so, as they are easy birds to distinguish compared with many others. They fall very naturally into three groups, as follows:—

The *Typical Herons* are all very big birds, over a yard long. They are never all white or all grey, nor can they be called pied.

The *Egrets* are either all white, all grey, or pied. The large white egret may be a yard long, but all the rest are very much less.

The *Bitterns*, with which the *Night-herons* may be classed, are all very well under the yard in length. They are of various colours, but never all white, all grey, or pied. They have very full feathering on the neck, and are not so very high on the legs, but as some of the *Egrets* approach them in this respect, the colour is a better distinction. They are all night-birds.

As there are so many *Hérons*, and as they show a great similarity of habit, there will not, as a rule, be much to say about them individually; it will be sufficient in most cases to note the peculiarities of the groups of species, and the distinctions of these latter between themselves.

The large typical *Hérons* are tall leggy birds, with closely feathered necks but with long narrow crests and drooping plumes on the breast. The sexes are alike, but the young differ somewhat, for they have no long plumes.

None of them are so common as some of the smaller species, and the largest are all rare. Irrespective of age, they may be distinguished as follows. Of the very large species over four feet from bill to tail—

The *Giant Heron* has a cinnamon head and neck, and is over four feet six inches.

The *Dusky Grey Heron* is well under four feet six in length, and is grey with a few white markings.

The *Great White-bellied Heron* is between these two in size, and at once distinguished by its white under parts.

The other two species, which are fairly common, are both less than three feet and-a-half long. Of them—

The *Common Heron* is always distinctly grey, while

The *Purple Heron* always shows much admixture of cinnamon or fawn.

The Common Heron.

Ardea cinerea.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 382.

VERNACULAR NAMES.—*Nari*, Sain, *Kabud*, *Anjan*, Hind.; *Khyra*, Behar; *Sada-kanka*, *Anjan*, Beng.; *Saa*, Sind; *Narraina pachi*, Tel.; *Narayan*, Tamil; *Kallapua-karawal-koka*, *Induru-koka*, Cing.

This species is clear French-grey in colour, with the head, neck and under-surface mostly white; but the sides and back of the head, including the long scanty crest, are black; the neck is streaked with black in front, and the sides of the body and the wing quills are black. The hen has a shorter crest and the long black plumes on sides of breast less developed, but is not noticeably different on a casual view.

Young birds are of a less pure grey, have grey heads and necks, and no black on the sides of the breast.

The bill is dark yellow, and the legs and feet dark olive-green.

In addition to the approximate length given in the key above, it may be noted that the shank and bill are each six inches long. *The bill is measured, as always in this series, from the gape or corner of the mouth.*

This is the species of Heron so familiar at home; it is found nearly all over the old world, including India, Ceylon, and Burma, although rarer in the last-named country than in the two former. Curiously enough, it was the first Indian bird I saw on coming out to India for the first time in 1894; not long after we had passed the Island of Minicoy, which, as the weather was dull, was no longer in sight, five of these Herons came up, and flew for a few minutes about the stern, so low and so close that I could see the spots on the neck. They then headed off in the opposite direction, no doubt bound for the island. No doubt they had only come off to look at us; the whole pro-

ceeding looked as if they wanted to read the ship's name and report that it had passed. Since then I do not recollect seeing the species wild in India, and it seems never to be brought into the Calcutta Bazaar, but some natives think it good food, as our ancestors used to do. I have tried it myself in England and find it tolerable, though no delicacy. The breeding habits of this bird in India much resemble its customs in England. In different parts of the country it may be found breeding at almost all times of the year. Its eggs are sea-green, and over two inches long.

The Eastern Purple Heron.

Ardea manillensis.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 381.

VERNACULAR NAMES.—*Nari*, *Lal-sain*, *Lal-an-jan*, Hind.; *Khyra*, Behar; *Lal-hank*, Beng.; *Pamula nari-gadu*, Tel.; *Sannari*, Tamil; *Karawal-koka*, Cing.; *Khyung byaing*, Arakan; *Nga-hit*, Burmese.

This bird is nearly as long as the Common Heron, but is a slighter bird, with much larger feet, the middle toe being as long as the shank, whereas in the other Herons of this group, the shank is longer than the toe. Its plumage is very richly coloured, though there is not a purple feather about it! It is somewhat complicated to describe, but the prevailing hue is grey on the wings and back, black on the belly, and chestnut elsewhere, with a black crown and crest. Altogether the old birds are very easily recognizable, but the *young* are absolutely different, their general plumage being an inconspicuous mixture of drab and fawn. The bill is yellow and the legs brown. This species inhabits the oriental region generally, including our Empire. It is not rare, and I have several times seen it in the Calcutta Bazaar. It does not go about in the open like other large Herons, but skulks in cover, and it breeds

in thickets or among rushes, laying more and smaller eggs than the Common or Grey Heron. In most parts of India it breeds in July and August, but in Ceylon from December to March, its matrimonial arrangements being regulated by the water-supply, *like those of other Herons in India.*

The Giant Heron.

Ardea goliath.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 384.

Goliath well deserves his name, for he is far the biggest of the Herons, being nearly five feet long, with a nine-inch bill and shank, and a wing which measures two feet when closed. His bill is particularly deep and powerful even in proportion to his size. In plumage he is grey above, and chestnut on the head, neck, and underparts, the throat being white, and the breast streaked with white and black. But only *young birds* have been found in India as yet, and in these the colours are generally duller, the grey of the upper parts mixed with rusty, and the belly white with brown streaks. The bill and feet are black, the former fleshy on the lower chap.

By rights this is an African bird, but for certain reasons, best known to himself, he occasionally turns up in India in his giddy youth. Blyth, the first Curator of the Indian Museum, got in the cold weather of 1845-46 several specimens in the Calcutta Bazaar. One of these was in my time still on view in the bird-gallery of the Museum, but no others have ever turned up near Calcutta.

But in Ceylon two more were shot, one in 1878 and another in the following year, and in Tickell's beautiful manuscript work on Indian birds in the Library of the Zoological Society of London. I find a good coloured drawing of the head and wing of a bird of this species, shot by an Arakanese on September 26th, 1862, south of Nandan-gyee. Other specimens have been seen, but not shot, in

various places, and that is Goliath's whole history with us. It is not even known that the young birds seen would moult out into the true adult *Goliath* plumage, but it is very unlikely that another Giant Heron has existed among us all this time without being identified, so that I think we are justified in assuming that our visitors are really identical with the African species when adult, as they certainly are when young.

As showing how African birds may stray in our direction, I may mention that when I was coming out quite recently, I was called in the early morning, after the ship had passed Guardafui in the night, and no land was visible, to look at a stork which had come on board, and which proved to be the African species *Abdimia abdimii*, a bird much resembling our Black Stork, but smaller and with a dark beak and red patch on the forehead. The bird was in immature plumage, and very tame; in fact one of the quartermasters very nearly caught it, but at last it was frightened away. When I told Mr. Rutledge about this he said he had known the bird to occur in India, recognizing it from my description.

To return to Goliath; it is the fate of giants to get bowled over, witness the case of him of Gath, and of his brother, the luckless Saph, who "perished in the land of Gob, by the hand of Sibbechai." But if any one wants to emulate these scriptural giant slayers, and only wounds the feathered Goliath, he had better not approach him armed only with a sling and stone, or even with a stick, for he is a brave bird, and will charge when pressed, and if he should get home "one in the eye" the consequences might be fatal; so that it is best to let him have the benefit of another shot. At the same time, even this fierce and powerful bird can be tamed. Church, who was the keeper in charge of the only specimen the London Zoological ever possessed, told me that the bird was quite affectionate with him and would nestle its head under his arm, while it would attack anyone else who went in. I remember, as a boy, seeing this very bird and being

told by Church about its ferocity. So much for Goliath; the other big Herons will not detain us long, so I will not apologize for prolixity about him.

The Dusky Grey Heron.

Ardea sumatrana.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 383.

VERNACULAR NAME.—*Pen-ley noa*, Burmese and Arakanese (Tickell, MSS.)

This is also a very big bird, measuring fifty inches in length, with a wing of about eighteen inches, shank about seven, and bill a little longer. The colour is slate with a white throat and crest, and white plumes on the breast, white tips to the long shoulder-plumes and some other white marks on the belly. The grey of the head and neck has a reddish-brown wash. Young birds have no long plumes, and their plumage is a mixture of brown and grey. Their size and uniform appearance will distinguish them from the young of other large Herons found with us. The bill and legs are black.

This bird ranges from Arrakan to Australia, and in Tenasserim is purely a sea-coast and estuarine bird. It is solitary in its habits.

The Great White-bellied Heron.

Ardea insignis.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 383.

This bird is intermediate in size between the two last, having a wing of about twenty-one inches, and an eight-inch bill; the shank is a little shorter, about half-an-inch. In colour it resembles the Dusky Grey Heron, but is of a lighter and purer grey, with a white belly.

Young birds also have this white under-surface, and are hence easily distinguishable. There is no information as

to the colour of the bill and feet. In fact, this is not at all a well-known bird, although pre-eminently Indian. It has been obtained in the Terai of Nepal, Sikkim, and Bhutan (where it is believed to breed), and at Bhamo. It is also said to have been seen in Upper Assam. Here, then, is an illustrious feathered personage in our midst, whose history requires elucidation, and I hope some of my readers will have an opportunity of studying it for themselves and give us the result.

CHAPTER IV.

EGRETS.

NEXT to the large or typical Herons, we have to consider the Egrets, of which we have eight species to reckon with, and it must be confessed at the outset that they are not very easy to tell apart in some cases. No Egret is so large as the big Herons mentioned in the last chapter, and they are usually more or less white in colour. They fall naturally into four sub-divisions.

The *True or White Egrets* (three species) are always pure white at all times; but their main point is their slender build, and specially their long legs and toes; the bill is never longer than the shank, and the length of the bare thigh above the hock is always more than that of the inner toe without the claw.

The *Cattle Egret* is at once recognizable by its short bill, which (from the corner of the mouth) is just about the length of the middle toe and claw; in all the others the bill exceeds the toe.

The *Rock Egrets* (two species) are sometimes slate-colour and sometimes white; in the latter case they may be known from the White Egrets proper by having the bill always longer than the shank, and the bare part of the thigh shorter than the inner toe without the claw, or only slightly exceeding it.

The *Pond Egrets* (two species) are always pied, and stouter in make than the others; their bill is longer than the middle toe with its claw.

As these last are the most familiar of all—at any rate in the case of one species—I will take them first. They are not large birds, and, for Herons, have comparatively

short necks and legs, the former well clothed with long loose feathers. In winter plumage and when young they are almost exactly alike, but their wedding garments, although similar in cut, are of altogether different colours.

The Common Pond Heron, or Paddy Bird.

Ardeola grayi.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 393.

VERNACULAR NAMES.—*Bagla*. *Andha-bagla*, *Chama-bagla*, *Kani-bagla*, Hind.; *Khonch-bogla*, Hind. and Beng.; *Ral-puchake*, Gond.; *Kokku*, Tamil; *Gudi konga*, Tel.; *Kana koka*, Cing.; *Hbyein-ouk*, Burmese.

This bird, as one ordinarily sees it—or, more often, fails to see it—is white, with the head and neck drab, streaked with buff, and the back plain drab. The effect of this arrangement of colours is to make the bird practically invisible on the ground; and when it gets up, an apparently white bird, its sudden appearance is a great surprise to the observer.

In the breeding season it can easily be seen, having then a dun neck and dark maroon back. The plumes here are long and lax, and are presumably what figure in the feather trade as “maroon osprey.” Male and female are alike.

Young birds resemble the old ones when in winter plumage. As nestlings, their very bilious-looking yellow-green complexions show plainly amid their scanty down. Their legs always remain green, but the flesh-coloured beak of their babyhood changes into a blue-and-yellow, black-tipped one when they are full grown.

The Paddy Bird is small as Herons go, being only a foot and a half long, with a wing of eight inches, bill of three, and shank of two and-a-quarter.

This little Heron is one of the commonest of Indian birds, being found everywhere where there is water, pick-

ing up a living on whatever "small deer" he can catch, for of course he is called a "Paddy Bird" because he frequents paddy-fields, not because he eats paddy, for like Herons generally, he eschews vegetable food. Puddle Heron would be a better name for him than Pond Heron, for no pool is too small for him to look in on for a chance of game, and he will frequent the same locality day after day.

Even in Calcutta this bird is common; indeed, I heard of a heronry of this species in a compound, which had to be abolished as a nuisance. It breeds in the rains, like other Herons; the eggs are a beautiful pale blue with a green tinge and rather larger than a pigeon's, and up to half-a-dozen in number.

Outside India and Burma the Paddy Bird is not found; but in the latter country and the Andamans he meets a near relative next to be dealt with.

The Chinese Pond Heron.

Ardeola bacchus.—BLANFORD, Faun. Brit. Ind.
Birds, Vol. IV, p. 394.

This species is a little larger than the Paddy Bird, at any rate as far as total length and length of wing are concerned, the wing being nine inches. The bigger dimensions are almost the only distinction between the birds in winter plumage, except that the dark parts of the present one are darker and more distinctly streaked than in the other; but in breeding plumage they are very different, the Chinese bird, with the same white body and wings, having a rich maroon or reddish bay head and neck, and a dark slate coloured back. The legs also appear to be yellower.

This species occurs, as above stated, in Burma and the Andamans, and also in Manipur and Karennee, but its stronghold is Eastern Asia where it ranges through China to Japan, and down the Malay Peninsula to Borneo.

The Cattle Egret.

Bubulcus coromandus.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 389.

VERNACULAR NAMES.—*Surkhia-bogla*, *Badami-bogla*, *Doria-bogla*, Hind.; *Gai-bogla*, Hind. and Beng.; *Samti-tonga*, Tel.; *Huni koku*, Tamil of Ceylon; *Gehri-koka*, Cing.

This Egret is easily distinguished from the rest by its comparatively short bill, as above indicated. It is a very beautifully proportioned bird, much the most so of all the small Herons, having neck and legs of reasonable length, and the former well but not heavily feathered. Both sexes are alike.

In winter the bird is pure white, with the exception of a buff patch on the forehead—a sort of caste-mark. Young birds are like this. The old birds in breeding plumage have the head, neck and back covered with beautiful golden-buff plumes, quite long on the last named, and constituting, alas! the “buff osprey” of the trade. The buff tint may vary to what naturalists call vinous, and other Herons probably “carrotty.” This bird is rather larger than the Paddy Bird, being about twenty inches long, with a ten-inch wing, and shank of three and-a-half inches. Its bill, however, is no longer than the others, being only three inches. The bill and bare skin of the face are always yellow, and the legs black.

This species is more active and graceful in its movements than other Herons, and is very interesting to watch as well as ornamental. It feeds mainly on grasshoppers and the parasites of cattle, and hence is constantly in attendance on oxen, buffaloes, &c. Thus it adds more to the landscape than any other Heron, for the others, even when their colour makes them readily visible, have too inanimate a style of beauty to be as effective as they might. Indeed, in the hunched-up attitude that they so often favour, they cannot be called beautiful at all.

The needs of the Cattle Egret's life keep him constantly, if slowly, on the move, and as he steps daintily alongside the huge buffalo who acts as his beater and gives him tick, he may fairly claim to be one of the most picturesque birds in the East.

In captivity, to which it becomes reconciled more easily than most Herons, it is not only ornamental, but useful as a fly-catcher. My friend, Mr. E. W. Harper, who was the first to send this bird and the Paddy Bird to the London Zoo, told me that he used to keep some of these birds loose in his compound with clipped wings, giving them a meal of meat every evening, and that they used to attend on his horses to catch flies about them. With such qualities, this Heron is admirably adapted for a garden pet, and I should strongly recommend its introduction into any warm country where grasshoppers and ticks are troublesome. Its method of flycatching is most amusing to watch; it stalks the victim like a cat, takes aim with blood-curdling deliberation and serious shaking of the head, and then makes its shot, which may hit or miss, for its aim is by no means unerring. Mohammedan shikaris, who devour the ordinary Paddy Bird with relish, refuse to eat this one, since, as it is not above relieving pigs of their parasites, they argue that it must have some taint of uncleanness; and it certainly must thus absorb infinitesimal portions of pork!

The Cattle Egret is common all over the better-watered parts of the Empire, and extends as far as the Moluccas to the East. In South Europe and in Africa its place is taken by the European Cattle Egret (*Bubulcus lucidus*), a species which practically only differs in having the auburn nuptial plumes confined to the head and back, and not clothing the neck as well. In Egypt it is often passed off on tourists as the "Sacred Ibis."

The Indian bird breeds according to the rains, in company with others of its own kind or with Paddy Birds and Egrets. The eggs are greenish, and very pale, three to five in number, larger than those of the Paddy Bird.

The true Egrets, with which we are now concerned, have attained a melancholy celebrity on account of our own womankind looking with an envious eye on their wedding garments. For the nuptial plumes of these birds, which are long, with thread-like disunited webs, constitute what are known in the plumassiers' jargon, as *esprit*, corrupted into "osprey." To obtain these, the poor birds have been most ruthlessly killed off in many places, notably in America and in China, and although such destruction has not overtaken them here as yet, they have not altogether escaped by any means. The special cruelty of killing Egrets for their plumes lies, of course, in the fact that they bear them only when breeding, and that thus the helpless young are left to starve when their parents have been shot down. There has been lately some attempt made to effectually stop this atrocity by rendering the wearing of "osprey plumes" a legal offence; and certainly something ought to be done, for to kill a brooding bird is not only an unsportsmanlike and cowardly act, but is set down as a serious sin in the Old Testament. At the same time, it seems to me that in this case, as in so many others, a compromise can be effected. The Ostrich, whose plumes were once his cause of destruction, has now been domesticated for their sake, and thus given a better chance of survival than he ever could have had otherwise; and I should like to suggest that a similar policy be followed with our Egrets. I have heard of an Egret farm in Algeria; and no doubt our birds could be kept to supply plumes at a very cheap rate, if allowed the run of a shallow tank enclosed in a wire-netting fence, and fed on small fish, shrimps, chopped refuse meat, &c. Another plan would be to regulate the taking of the birds, making the capture of Egrets a monopoly of licensed bird-catchers, who should pay a tax to Government, and be under strict obligations to let the birds go after clipping off the coveted plumes. This would do the birds no harm, and ensure the ladies a constant supply of what is undoubtedly a very beautiful article of decoration.

That the idea of taxing wild birds of their plumes, so to speak, is not an impracticable one, has been proved by practical experience in several instances. In Central America the natives before the Spanish conquest habitually treated the magnificent Quezal or Resplendent Trogon (*Pharomacrus mocinno*) in this way; no one was allowed to kill the bird, but it might be limed and robbed of its yard-long burnished-green train, for royal wear only. Similarly, in the Sandwich Islands, the O-o (*Acrulocercus nobilis*), a large black honey-sucker, was regularly caught and despoiled of two brilliant yellow tufts growing under the armpits, which were wanted for the regal feather-mantles. Both birds have survived to the present day, whereas had they been killed outright for their feathers they would undoubtedly have been exterminated long ago. Indeed, this has happened with another Sandwich Island bird used for this purpose, the Mamo (*Drepanis pacifica*). This bird was about half yellow, and hence either had to be killed outright or could not stand so much plucking.

Of course, I don't for a moment advocate that Egrets should be *plucked*; clipping off the plumes would be the proper course to pursue in all such cases, and this should be insisted on. Thus a valuable product would be secured at very little inconvenience to the birds, and an additional motive would be given for their protection, while the Government might derive some benefit from the licenses.

After this somewhat lengthy discussion of Herons' and Women's Rights, we will proceed to the discrimination of the different kinds of Egrets. They are all, as I said before, long slender birds; and their necks are closely feathered and hence look particularly slim. They have the usual sedentary and piscatorial habits of Herons, and all associate when breeding. *They are always all white*, and, except for size, look very much alike out of the breeding season. At that time, however, they are sufficiently distinct, as each has a different style of *trousseau*, which, as

usual in Herons, is worn by the bridegroom as well as the bride; and it is amusing to note that the smaller the bird, the more elaborately it dresses. There are three sizes of Egrets, of which the biggest is:—

The Large Egret.

Herodias alba.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 385.

VERNACULAR NAMES.—*Mallang-bogla*, *Torra-bogla*, *Tar-bogla*, *Burra-bogla*, Hind.; *Dhur-bogla*, Bengali; *Pedda-tella-konga*, Tel.; *Mala-konga*, Gond; *Vella-koku*, Tamil of Ceylon; *Baddadel-koku*, Cingalese.

This Egret is nearly up to typical Heron size, being about a yard long, with the wing nearly fifteen inches, shank six, and bill a little shorter. But these are merely average measurements, for it is a most variable species in size; the wing may be only thirteen inches, or as much as seventeen, and the shank only just over five or more than eight. The colour cannot very well vary, being white only; but the bird puts on a splendid train of plumes in the breeding season, reaching several inches beyond the tail. At this time also its complexion (presumably under the influence of intense jealousy!) undergoes a change; ordinarily both bill and face are yellow, but at nesting-time the bird gets green in the face and black in the bill. The legs are always black, and the eyes yellow like those of most Herons.

This bird is found practically all over the world, but does not seem very numerous anywhere. In England it of course gets shot at sight for being a "casual straggler;" and in New Zealand it was so well known as a rarity, and so much admired, that "welcome as the Kotuku" was a Maori proverb. The Maories used to keep the bird alive when they could get it, and, I regret to say, pluck its plumes regularly.

With us this species is a resident, though migratory in some instances. It is less fond of society than the smaller sizes of Egret, but will condescend to associate with these in the social gatherings so much affected by Herons at the breeding season. This is during the rains, whenever these may happen to fall. The eggs are blue-green, and generally three in number.

On account of its great size, which would render it more secure against the attacks of vermin, this Heron would be a particularly good species to keep alive in enclosures for the supply of plumes. It does well in captivity, one having lived for over twenty years in the Calcutta Zoological Garden, during which time he must have grown and dropped many pounds' worth of plumes. He was not a bird of the most genial disposition; indeed, I used to call him "Hannibal Chollop," because, like that celebrity's, his motto seemed to be "The feet in a circular direction is all I require."

The Middle Egret.

Herodias intermedia.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 386.

VERNACULAR NAMES — *Patangka* or *Patokha-bogla*, *Karchia-bogla*, Hind.; *Puruwallai-koku*, Tamil of Ceylon.

This size of Egret corresponds, when in winter plumage, very closely with the last, but has a proportionately shorter bill, and is smaller, though not very much less than small specimens of the Large Egret, the total length being twenty-six inches, and the wing a foot. The shank, however, is less than five inches long, and the bill under four. In complexion, and in the change thereof in the breeding season, it resembles the Large Egret, but it carries a more costly wedding-robe, having "osprey" plumes not only on the back, but on the breast also. The

train is particularly long, sometimes reaching nearly a foot and a half, and almost touching the ground.

This species is found throughout a large portion of the warmer regions of the Old World, from Africa to Australia. It is resident with us, and breeds in close-packed colonies in trees, laying four pale blue-green eggs. It is a particularly tame species, often breeding in towns, and on this account and of the abundance of plumes it carries would be particularly suitable for protective cultivation in the open.

The Small Egret.

Herodias garzetta.—BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 387.

VERNACULAR NAMES.—*Kilchia* or *Karchia bogla*, Hind.; *Nella nucha konga*, Tel.; *Sudu-koka*, Cing.

This smallest size of Egret is only a little over two feet long, with an eleven-inch wing, and four-inch shank and bill, the last-named member being thus proportionately longer than in the two larger species. The bill is always black and the face yellow; the legs are black, and the toes more or less yellow. In breeding dress this bird carries a train of the usual style, but gracefully turned up at the end; it also has a tuft of breast-plumes, but these are simply long ordinary feathers, not filamentous ones; and a crest of two long ordinary plumes adorns the head.

This dainty looking bird inhabits practically all the warmer parts of the Old World, and is a resident with us; it is more prolific than the other species, laying as many as half-a-dozen eggs. For aviary cultivation this would be the best species of our three, but there is a better species of even smaller size in America, with filamentous plumes on head, breast and back—the Snowy Egret (*Leucophoyx candidissima*).

The next Herons that we have to deal with are the two Reef Herons, or as they are better called, Reef Egrets; the

word "Egret" merely meaning a small Heron, just as "teal" means small duck. The Reef Egrets are not large birds, being about the size of a Small Egret; in general form and style they resemble the large typical Herons described in the beginning of last chapter. As in those birds both sexes are alike, and have the same dress both for weddings and ordinary occasions; their ornamental plumes on breast and back being merely long narrow feathers, and not the filmy and expansive appendages worn by the more extravagant true Egrets. These birds differ from most other Herons in devoting their attention almost exclusively to marine zoology; they live only on sea-coasts and seldom taste anything but sea-fish, crabs, &c. Possibly this diet, which must be more or less salt, has some effect on their constitutions; for it is a remarkable fact about them, that they do not "come true to colour" as fanciers would say. Their proper plumage is slate-colour throughout or nearly so, but albinos are so common that some may always be seen, and as the birds have no prejudice about colour they all associate and breed together indiscriminately. This is not the case with some birds, notably with the crow tribe. A case was recently recorded by Mr. Bucknell in the "Birds of Surrey," in which a pied rook was observed to lead a lonely existence; and here in Calcutta a white crow has been known to suffer similar social ostracism although our crows seemed not to object to their friends "showing the white feather" in their wings. It has long been known also that in the Færøe Islands there were always some pied ravens which were not received in local raven society, and hence intermarried among themselves if they bred at all. To return to our Herons, other Egrets in other parts of the world are known to show the same uncertainty of colour; and it is to be noticed that such species are always more or less slate-colour when in normal plumage, and are besides addicted to frequenting sea-coasts. In this connection it may be mentioned that the "Andalusian" breed of fowls, which is slate-coloured, used to be particularly apt to throw white specimens,

although I dare say this tendency has now been bred out of it.

The Indian Reef-Egret.

Leptorodius asha.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 390.

VERNACULAR NAME—*Kala bogla*, Hind.

This bird, when it is of the proper colour, is slate-coloured with a white throat; it has a crest of two long narrow feathers.

Young birds are coloured like old ones, but have no crest and no long plumes on back and breast. A young bird, however, is often white or pied; and a white one at all events may grow up grey, the change having actually been observed in birds kept in confinement by Mr. Cumming in the Persian Gulf. At the same time full-grown white birds with proper plumes are undoubtedly found; and blue old birds with a few white feathers in the wings have also been seen.

The explanation is, I think, very simple. The species is subject to temporary as well as permanent albinism, such as is known to occur in other birds. For it is not at all an uncommon thing for a young bird to fledge off white, and then disappoint the man who buys it as a rarity by moulting out into its proper colour. This is well exemplified in the case of two common Mynahs at one time in the Alipore Zoological Gardens. These birds were obtained from Mr. Rutledge; I cannot say if they were *young* when he got them, but they were certainly white. Now, of these birds, the hen entirely got back to the proper colour, and the cock, after partly doing so, apparently decided to dispense with feathers, as much as possible, and for a time went about in a state closely approaching that of the mermaid in the Breitmann ballads. Normally, the bill of this Reef Heron is dark yellow and its legs green.

but the colours vary. The eyes are always yellow as in most other Herons. This is the case even with the albino birds; indeed *pink-eyed* albinos, though they may occur amongst birds as among other animals, seem never to live long in a state of nature, owing doubtless to their bad sight.

This bird is about two feet long, with a wing about ten inches; the shank is about four inches long, and the bill about half an inch longer.

This species haunts the shores of the Indian Ocean from the Persian Gulf to Ceylon and the Laccadives, breeding in May on mangroves or even on the ground in bare uninhabited islands; three to five pale sea-green eggs are laid, nearly two inches long.

The Burmese Reef-Egret.

Leptorodius sacer.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 391.

This species is rather smaller than the other, and somewhat different in build, having a proportionately longer bill and wings and shorter legs. The bill is nearly an inch longer than the shank, and the bare part of the leg above the hock is shorter than the inner toe without the claw; in the other species it is longer. In this species also the crest is short and bushy, not composed of two long plumes. *Young birds* differ from old ones as in the previous case. The true colour of this bird is a darker slate than that of the other species, and the white on the throat, which is not always present, is confined to a narrow streak. As in the other species, however, some birds are all white, both young and old; the latter may have particularly fine back plumes. Young birds may be pied as well as grey or white.

The bill should be brown above and yellow below and the legs dark green; but the colours are variable.

The length of the bird is about twenty-two inches, with a wing about eleven inches, shank about three, and bill nearly four.

This bird has a very wide range on eastern coasts from the Andamans and Nicobars all along to Japan in the north, and Australia in the south, to say nothing of the Pacific Islands in between. In Arakan and the Andamans it breeds from April to June; its eggs are of the same colour as those of the other species, but slightly smaller in size and decidedly fewer in number.

It is rather curious that this smaller and less prolific bird should have so much wider a range than the other species; but no doubt its larger bill and wings are more than counterbalancing advantages in the struggle for existence.

CHAPTER V.

BITTERNS AND NIGHT HERONS.

THE Bitterns, with which the Night Herons may well be included, are a very distinct section of the Heron family ; they are shorter and stouter in build than Herons generally, the beak being generally considerably longer than the shank, and very little bare thigh showing above the hock. Their necks also are covered with long feathers, which much adds to their cobby appearance. It must be admitted that the back of their necks is bare, but they manage to hide the bald parting by keeping the feathering brushed back over it.

In plumage they are very unlike our other Herons, never being all grey, all white, or pied. The male and female are not always alike, and the young are very generally different. None of them are very large as birds of this family go, the biggest being nearly a yard long.

They differ from the Herons and Egrets proper in being far less open and social in their ways ; they are all night birds, and they are generally solitary at all times. Herons generally, as I remarked at the commencement, are not angels for temper—not even the delicate-looking true Egrets, but Bitterns are morose to a degree, and particularly dangerous when cornered, when they will fight to the last.

Eight kinds of Night Herons and Bitterns are found in our Empire, and may be easily distinguished as follows :—

The *Common Bittern* by its large size ; it is well over two feet long, none of the others being as much as two feet.

The *Little Bitterns* (three species), on the other hand, are remarkably small, being fifteen inches or less in length.

The *Short-billed Night Heron* has the bill much shorter than the shank, all the others having it longer.

The *Common Night Heron* may be known by its very stout bill and large red eyes.

There remain the *Black and Green Bitterns*: of these, the former is nearly two feet long, and has ten tail feathers, while the latter measures only eighteen inches, and has two more feathers in its tail.

The Night Heron.

Nycticorax griseus.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 397.

VERNACULAR NAMES.—*Wāk*, *Kwāk*, *Tar-bagla*, *Kokrai*, Hind; *Godri*, Sind; *Kowa dauk*, *Batchka*, of Beng.; *Chinta wakha*, Tel.; *Sannari*, Tamil of Ceylon; *Ræ kanakoka*, Cing.; *Lin-wet*, Burmese.

This Night Heron is the most burly-looking bird in the family; it stands low on the legs, the shank being much shorter than the bill, which last is yet not very long, but deep, and distinctly curved in profile; the eyes are remarkably large. The only ornament the bird wears consists of a tuft of long narrow white feathers, growing from the back of the head. There are most usually three of these, but there may be nearly a dozen, and they are worn all the year round. Male and female are alike, but the young ones are absolutely different in colour and have no crest. Old birds are grey above and white below with a green-black cap and back; the long crest is white; *young birds* are brown, mottled with white.

The beak is black, the face and feet greenish yellow and the eyes a beautiful ruby red. Old birds in the breeding season change their yellow tights for salmon-coloured ones, and show a distinct tendency to get black in the face.

This bird is nearly two feet long, with the wing half its length, shank three inches and bill about four.

The Grey Night Heron is found practically all over the world except in South America and Australia. In our region it is local, but not rare. It is very sociable in a disagreeable way; the birds doze or quarrel all day at home on the trees they select, and at nightfall go out to feed in parties; their presence, as they pass overhead at night, is often made known by their unmistakable croak, which is well expressed by the first native name quoted. Another of these names notices the birds' resemblance to a crow, and no doubt this species is the night raven of poets—a bird which was indeed supposed to only exist by virtue of poetic licence.

Night Herons breed on trees or reeds, and lay four or five pale sea-green eggs, about two inches long. The usual breeding season is in July and August, but it may be as early as March in Kashmir. The birds have bred for years in a free state in the Calcutta Zoological Gardens, where their numbers have constituted quite a nuisance, as they are most difficult to drive away even when shot at until many have been killed. In moderate numbers they are a decided acquisition for a public park, as their habits are most interesting to watch, and they get very tame.

In the London Zoological Gardens they have bred well in confinement, and I have even seen one eat soaked bread, when it had to swim to get it. I have seen the wild birds in Calcutta settle in water to pick up sticks when nesting, so that this bird would evidently not find it hard to take to the ways of a gull.

The Night Heron is one of those birds which would be found at home if it were let alone; for no less than three pairs have been killed at one place and time in England by one of those unscientific vandals who are dignified by the title of "enthusiastic local naturalists."

The Short-billed Night Heron.

Gorsachius melanolophus.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 398.

This species is a smaller bird than the common Night Heron, but has much longer legs; its bill is quite short, in shape and proportionate size much resembling a crow's.

There is a thick crest of moderate length. Old birds are chestnut with a white throat and belly and black crest and quills, the last tipped first with chestnut and then with white; they generally show a good deal of black pencilling—the remains of the young plumage.

The plumage of *young birds* is an intricate grizzle of dark brown and buff—the sort of plumage one would expect in a game bird rather than in a Heron.

The bill is flesh-coloured, black along the ridge, the face greenish grey, and the legs brownish green.

This curious Night Heron, or Bittern, as it is sometimes called, has a wide range from the hill forests of our Malabar coast (though not elsewhere in the Indian peninsula) east through Assam to Formosa and Hainan in one direction, and the Philippines and Borneo in another. It is said to be a seasonal migrant to Ceylon, arriving about November, and it is found in the Nicobars; also in the Andamans, a skin having been sent thence to the Indian Museum by Colonel Temple. The same collection has a skin of a nestling obtained by Mr. E. C. S. Baker in N. Cachar, out of a nest containing a brood of three; nestlings have also been obtained in Kanara on the Malabar coast. The eggs are bluish-white and nearly two inches long. The general habits of the bird are nocturnal, and its nightly practices apparently the reverse of respectable at times, since a specimen Captain V. Legge kept in confinement in Ceylon was obtained in a state of what was stated to be, and looked like, excessive intoxication, owing to the bird having indulged in toddy!

To proceed with the true Bitterns : these may be well headed by the Common Bittern, which is the largest and most striking, in more senses than one, as he is a peculiarly desperate character when brought to bay.

The Common Bittern.

Botaurus stellaris.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 405.

VERNACULAR NAMES.—*Nir-goung*, *Baz*, Hind.

This is a fine large bird, about 28 inches long, with a wing of thirteen inches ; the bill and shank are rather short, each measuring about four inches. The plumage is soft, and remarkably full round the neck ; it is tawny, mottled and pencilled with black, in a manner more resembling a game-bird's feathering than that of one of this family. The crown is black, and there is a black moustache.

The face and feet are yellowish green, and the bill yellower still. This is the only bird of the family certainly known to be migratory with us ; it has never been found to breed here, although it visits the Empire generally and regularly as a winter migrant ; but it has not as yet appeared in Southern India, Ceylon, or Tenasserim. It is found from Ireland to Japan, so it has a wide range altogether, though long extinct as a breeding-bird at home, and of course ruthlessly shot down whenever it now appears in England. Out here there is of course no objection to shooting it ; indeed, there is a good reason for so doing ; for, as Jerdon and Dr. Blanford say, and as I can repeat from personal experience, it is quite good to eat, although feeding on much the same fishy diet as the rest of the Herons. It is a night-bird, silent and solitary as a rule, but it has been seen in a flock on migration ; and it croaks occasionally, and is a proverbial " boomer " in the breeding season.

The Black Bittern.

Dupetor flavicollis.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 403.

VERNACULAR NAMES.—*Kala-bogla*, Hind.; *Nol-bogla*, Beng.; *Ay-jan*, Assamese; *Karu-nari*, Tamil of Ceylon; *Karawal koka*, *Kalu koka*, Cingalese.

This is a fair-sized bird, nearly two feet long, *i.e.*, rather larger than the common Paddy Bird (*Ardeola grayii*); in general shape and style it is not unlike that species, but has a proportionately longer bill and is lower on the legs, the bill being four inches in length and the shank only two and-a-half; the wing is eight inches long.

The colour of this species is, however, its most distinctive point, being a dark slate, almost black, much like the colour of many tame pigeons; the front of the neck is mottled with chestnut, buff and white. *Females* are browner than males; and young birds are distinctly dark brown, with buff edgings to the feathers. The long bill and ten tail feathers will always distinguish this species from other small Herons.

This is a thorough night-bird, and no doubt for this reason is less well known than it might otherwise be. It is fairly common in Eastern Bengal, Assam, Sylhet, and Burma, and extends east to China and Celebes; but west of Calcutta it has only turned up in a few places, near Ahmedabad, Baroda, and Madras, and on the Nilgiris, in Malabar, Sind, the Wynaad, Travancore, and Ceylon. It is certainly not rare near Calcutta, where I have seen it several times, and it bred wild in our Zoological Garden in 1898. I well remember seeing the young scrambling about in a screw-pine (*Pandanus*).

In Sind it has been found breeding in June, and in Pegu during the two following months; the nest is on a bush, and the eggs pale-green, four in number, and rather over an inch and-a-half long.

The next bird belongs to a group which are midway between Bitterns and Herons ; their long crest brings them near the former, and their thick-set form, dark full plumage, and their nocturnal habits, are in favour of the Bittern connection, so far as the two groups can be called distinct at all. Moreover, the scientific name of the bird under discussion (*Butorides*), so far as it can mean anything in its exceedingly doggy Greek, appears to signify "son of a Bittern" which sounds nicely suggestive for an Oriental term of encouragement to a refractory shikari.

The Little Green Bittern.

Butorides javanica.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV. p. 395.

VERNACULAR NAMES.—*Kancha bogla*, Hind.; *Kana bogla*, Beng. ; *Ung Fa-o nang*, Lepcha ; *Dosi hongga*, Tel. ; *Doshi koku*, Tamil.

This bird is about the length of the common Paddy Bird, *i.e.*, eighteen inches, but though its bill is as long, its legs and wings are shorter, the wing being only seven inches, and the shank two, as against a three-inch bill.

The back, as in the large typical Herons, is furnished with long hackles. The cap, crest, and upper surface generally are metallic dark-green, and the neck and under-surface grey ; there is a black moustache, and the face, throat, and a streak down the front of the neck are white ; this white band is streaked with brown, and there are buff edgings on the wings. *Females* are like males, but in old age both sexes lose all the light markings and become reddish brown beneath.

Young birds are very different, being brown, spotted with buff, where the old ones are green, and white with brown streaks below.

The bill is black above and yellow below, and the face and feet green. This bird is found all over our Empire

The Black Bittern.

Dupetor flavicollis.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 403.

VERNACULAR NAMES.—*Kala-bogla*, Hind.; *Nol-bogla*, Beng.; *Ay-jan*, Assamese; *Karu-nari*, Tamil of Ceylon; *Karawal koka*, *Kalu koka*, Cingalese.

This is a fair-sized bird, nearly two feet long, *i.e.*, rather larger than the common Paddy Bird (*Ardeola grayii*); in general shape and style it is not unlike that species, but has a proportionately longer bill and is lower on the legs, the bill being four inches in length and the shank only two and-a-half; the wing is eight inches long.

The colour of this species is, however, its most distinctive point, being a dark slate, almost black, much like the colour of many tame pigeons; the front of the neck is mottled with chestnut, buff and white. *Females* are browner than males; and young birds are distinctly dark brown, with buff edgings to the feathers. The long bill and ten tail feathers will always distinguish this species from other small Herons.

This is a thorough night-bird, and no doubt for this reason is less well known than it might otherwise be. It is fairly common in Eastern Bengal, Assam, Sylhet, and Burma, and extends east to China and Celebes; but west of Calcutta it has only turned up in a few places, near Ahmedabad, Baroda, and Madras, and on the Nilgiris, in Malabar, Sind, the Wynaad, Travancore, and Ceylon. It is certainly not rare near Calcutta, where I have seen it several times, and it bred wild in our Zoological Garden in 1898. I well remember seeing the young scrambling about in a screw-pine (*Pandanus*).

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except in desert parts and high mountains, and over South-Western Asia generally, as well as the Mascarene Islands. Andaman and Nicobar birds are darker on the grey parts.

This is a night-bird, though less completely so than most Bitterns. It breeds in most places between May and August, on trees, laying from three to five pale sea-green eggs rather over an inch and-a-half long.

The Little Bitterns, which conclude the Heron family, are quaint little things, all under sixteen inches long, of a more or less dun or chestnut colour, with very fully ruffed necks. Their legs are rather short, and their bills somewhat slight. They differ from the rest of the Herons in two important points; the females differ much from the males in colour, and the birds are pre-eminently perchers, skulking about among bushes and reeds, among which they run and climb rapidly. They have a trick of perching with the bill pointed upwards, and when facing the observer thus look very like a dead yellow rush. At least Mr. Hudson found this to be the case with a South American species, which practically made itself invisible among reeds by this manœuvre, aided by the fact that it turned and faced him as he walked round it, thus only presenting the thin front edge of the body to the eye. This sounds very wonderful, but the explanation is really simple. The birds practise the trick of standing in this position everywhere; a recent observer in Africa saw it done in an ordinary tree, where it was of course of no use; and the bird would naturally in any case turn to keep its eye on the enemy. Moreover, the thin slab-sided form of the bird, so admirably adapted for this protective device, is more or less common to all Herons, and in this particular case is needed to enable the species to creep through the rushes.

When brought to bay, the Dwarf Bitterns fight bravely, and will do their best to poke out the eyes of any one who handles them incautiously; in fact, I have seen few things more touching than the desperate "gameness" of these poor little birds, as one sees them at times in the Calcutta

bazaars half frightened out of their wits, no doubt, but ready to fight to the end. Three species of these birds are found with us, and may be distinguished as follows:—

The *Chestnut Dwarf Bittern* by having the leg bare for a little above the hock, as usual in waders. The other two have their thighs feathered right down to the hock as in ordinary birds. Of them—

The *European Dwarf Bittern* has a long bill, longer than the middle toe and claw; while

The *Eastern Dwarf Bittern* has the bill shorter than this.

The Chestnut Dwarf Bittern.

Ardetta cinnamomea.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 402.

VERNACULAR NAMES.—*Lál-bogla*, Hind.; *Khyri-bogla*, Beng.; *Kuruttu-koku*, Tamil of Ceylon; *Metti korowaka*, Cingalese.

The male of this bird is bright chestnut, paler below, and with the throat striped with white and brown. Quite old hens apparently resemble him; but as a rule the *female* is duller in colour, with a blackish cap, some buff mottlings on the wings, and dark brown streaks below.

Young birds also bear this plumage, but are more spotted above. The bill is yellow below and dark along the ridge; the face reddish purple in males and yellow in females; the legs yellowish green. The eyes may be yellow as in most other Herons, but vary to red. The length is fifteen inches; the wing measuring six inches, the shank two, and the bill about two and-a-half.

This species is found over South-Eastern Asia generally, and is not an uncommon bird throughout the Empire, but apparently visits Sind, Rajputana, and the United Provinces as a monsoon migrant only. It breeds during the rains as usual. It lays five or six white eggs, a little more than an inch long. I have seen it brought not uncommonly into the Calcutta bazaar in winter, and have

also observed it wild at Alipore, its red colour at once distinguishing it from all other "Paddy Birds."

The European Dwarf Bittern.

Ardetta minuta.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 400.

This is the smallest of all our Herons ; it has a very long beak for its size, that member measuring two and-a-half inches, while the shank is about an inch and three-quarters ; the whole bird is only fourteen inches long, with a wing of nearly six.

In colour the *male* is pied with black and buff, the cap, back, quills and tail being of the dark colour ; there is a touch of white on the sides of the throat, and of grey on the "shoulder" of the wing. The *female* has a brown back with buff edges to the feathers, and is marked with dark streaks below.

In *young birds* there is more dark streaking, and the dark brown buff-edged plumage extends on to the flat of the wing.

The bill appears to vary from yellow to grey, and the feet from yellow to green ; the face is pale green.

This is one of the European birds which extend into our United Provinces, breeding in Kashmir and the Himalayas and ranging east to Nepal. From Europe it migrates to Africa during the winter. Its breeding season is in May and June ; the nest is placed in rushes or paddy, and the four or five eggs are white and about an inch and-a-quarter in length. This is a not unfrequent visitor to England, and has apparently even bred there ; so that it would very likely establish itself if not rigorously killed off by collectors.

The Eastern Dwarf Bittern.

Ardetta sinensis.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 401.

VERNACULAR NAMES.—*Jun-bogla*, Hind.; *Kat-bogla*, Beng.; *Mannal Nari*, Tamil of Ceylon; *Metti korowaka*, Cingalese.

This is very like the last bird, but is about an inch longer, and has a proportionately longer bill and shorter wing, the latter being less than two and-a-half inches, while the bill is two and three-quarters. The shank is only about a tenth of an inch longer than in the other species.

The *male* bird differs from the European Dwarf Bittern by having more of the buff tint, only the cap, quills and tail being black, the back, with the innermost or tertiary quills, remaining yellow. The rump is grey, and there is sometimes some grey about the head.

The *female* is redder in tint, has chestnut streaks on the crown, and a brown back with buff edges to the feathers. She has a cinnamon streak down the throat, and brown streaks on the flanks. The *young*, as in the other species, are like her, but more streaked with dark colour below, and more mottled with buff edgings above. The bill is brown, darkest above; the face green, legs flesh-coloured and toes yellow.

This Bittern has a great range, from the Seychelles to Japan in one direction, and North Australia in another; of course it occurs throughout most of our Empire, but it is uncommon and has not often been recorded. Its habits are like those of the last species, but the eggs are smaller and may be fewer, with a greenish tinge.

PART II.

PART II.

CHAPTER VI.

NON-PERCHING WADERS—*Flamingoes and Cranes.*

We now come to the larger and more important division of our waders, those which have the hind-toe usually poorly developed, seldom perch, and come out of the egg prepared to exist in an active state, not as passive nestlings.

As I pointed out in the introduction, I meant to deal with certain birds as waders which did not wade, on account of their relationship to the more typical forms which did ; and most of these, including one or two whole families, come into this section.

The various families of non-perching, youthfully-active waders and their allies are not all closely related to each other, and still less to the birds I have been dealing with. On the contrary, they belong to some very distinct groups ; but as ornithologists differ as to what these groups are in many cases, I shall here content myself with distinguishing them according to their families, for about the family distinctions there is to all intents and purposes complete unanimity.

To distinguish the said families, therefore, we must observe that :—

The *Flamingoes* are large, and extremely long of neck and leg, with short, thick, downwardly-bent bills and webbed feet.

- The *Cranes* are also large and lanky, but have straight rather slight bills, and no web between the toes except a small one between the two outer.
- The *Rails* are of moderate or small size, very slab-sided, short-winged and tailed and with no web at all between the toes.
- The *Finfoot* has a well-developed tail and very short legs with lobed toes.
- The *Bustards* have rather small heads and bills, and very short toes, only three in number; they are of large or medium size.
- The *Shore-birds*, under which title come the Plovers, Snippets, Snipe, and so forth, are medium-sized or small birds with but few points in common, the chief being that the mouth does not run further back than the forehead, which gives them a very characteristic expression.
- In this family there are two very distinct types of form; the Plovers, with short pigeon-like bills and big heads and eyes; and the Snipes and their allies, with smaller heads and eyes and bills, always rather longer than a pigeon's and often very long indeed.
- The *Crab-Plover* has black and white plumage, a crow-like beak, and partly webbed feet.
- The *Thick-knees* have large heads and yellow eyes, stout bills with gape going back beyond the forehead, and three short toes.
- The *Coursers and Pratincoles* are much like Plovers, except for the mouth going further back than the forehead; the latter also having swallow-like wings.
- The *Jacanas* by their long thin toes with enormously long nearly straight claws.
- Of these the Flamingoes stand quite alone; the Rails and Cranes are undoubtedly very closely allied; the Bustards are related either to them or to the

Plovers ; and the great Shore-bird family quite safely claims the Crab-Plover, Thick-knees, Coursers and Pratincoles, and Jaçanás as merely diverging branches of its clan, hardly entitled to family rank.

THE FLAMINGOES (*Phœnicopteridæ*).

THE Flamingoes are a group standing very much by themselves ; in their anatomy they come nearest to the Storks and Ibises, but in general habits and in the fact that the young are active, they resemble geese and ducks. At any rate they have no near relations and do not look at all like any other birds.

They have small bodies and *very* long necks and legs, moderate-sized wings, and short tails. Their bills are quite peculiar, being short and thick, and bent downwards at an obtuse angle at about the middle. The upper chap is much smaller than the lower, and fits on it like the lid of a box ; it is also freely moveable, unlike the upper jaw of most animals. As in the ducks, the bill is covered with skin instead of horn, except at the tip ; and the edges of the bill are similarly provided with a row of ridges, forming an apparatus for sifting the water, which is used just as a duck's is. Only the Flamingo's bill acts like a duck's reversed ; the upper chap practically answering the purpose of the duck's lower jaw, the Flamingo turns its head under till the crown faces the ground, and then splutters and guzzles away in regular duck-fashion, only with the bill the wrong way up. As with ducks, the food is whatever can thus be sifted out of mud, such as worms, small shell-fish, weeds, and so forth.

The feet, which have three short toes in front, all fully webbed, and a tiny useless back-toe in all Indian species, serve well to support the bird as it paddles about hock-deep on the ooze, as it generally feeds in shallow water. Flamingoes can, however, swim well enough, sitting with

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their sterns high, like geese, and their necks gracefully curved.

They rise rather awkwardly, running to get a start, and fly with the long neck, and legs outstretched all in one line, making them look like a stick on wings. Their style of wing-beat is like that of a goose, and like geese they travel in "skeins."

Their voice is also a goose-like cackle or gaggle, and in captivity they seem to be always getting up two-penny-half-penny arguments, with much gesticulation of heads, gaping of bills, and erection of their long back-plumage; but nothing ever comes of all the noise; at any rate I never saw two Flamingoes fight. A trick very characteristic of Flamingoes is the frequent flapping of the wings, in which habit again they show a resemblance to the geese.

Their ways when nesting, are, however, peculiarly their own. They breed in flocks, and scrape up a small hillock of mud in the shallow water, and place their eggs on the top, sitting down on them in the ordinary way; although for a long time they were supposed to build a regular mud stool and stand astride it. Only two eggs were laid, white in colour. The young are active when hatched, and have a straight beak at first; clothed first in white down, they fledge off into a plumage absolutely unlike that of the old birds, both sexes of which are similar, though the cocks are larger.

Flamingoes are found almost all over the world in warm and temperate regions, and do not migrate far. Only six species are known, and of these two only are found in India, and those chiefly as visitors.

The Common Flamingo.

Phoenicopterus roseus, BLANFORD, Faun. Brit. Ind. Birds, Vol. IV., p. 408.

NATIVE NAMES:—*Bog-háns*, *Ráj-hans*, Hind. ; *Kánthunti*, Beng. ; *Pu-konga*, *Samdrapa-chilluka*, Tel. ; *Punari*, Tam. ; *Urian*, Tamil of Ceylon.

This is the larger of our two species, and the upper chap of its bill simply fits on to the top of the other in the ordinary way. It varies extraordinarily in size, even irrespective of sex.

In colour *old birds* are a lovely rosy white, with the wings bright red with black quills ; the bill, bare skin of the face, and legs are pink, the tip of the bill being black ; the eyes are yellow.

Young birds are greyish-white, with drab wings marked with dark streaks ; there is no pink except the "axillary" tuft under each wing, and the bill and feet are dull lead grey. They do not come into full colour till after more than one year.

A male will be over four feet long, with a wing about a foot and a half from knuckle to tip, and shank of fourteen inches from hock to toes ; but hens are smaller, and the difference in size is sometimes very striking indeed, even in young birds.

This Flamingo was the species known to the ancients, the name *Phoenicopterus* being the original Greek one, and meaning "crimson-winged." It inhabits shallow salt and fresh waters in Africa, Southern Europe, and Southern and Central Asia as far east as Bengal, where, however, it is rare. Indeed, it is not common anywhere in India except in the Punjab, Sind, Guzerat, and parts of the N.-W. Provinces and Rajputana. The birds are usually in flocks.

They are said to breed in September and October at Khadir on the Runn of Cutch, and are believed to do so also, about March, in the south-western part of Ceylon. But they are usually migrants, arriving in the north-west parts of India about October and remaining till June if the water lasts; and in the spring they are given to casually dropping their eggs about, without troubling to sit on them. So that the mere finding of eggs does not prove that the birds are necessarily breeding in a given locality. There is no doubt, however, that Flamingoes do breed as near as the head of the Persian Gulf. The eggs are about the size of a goose's.

The only occasions on which I have seen wild Flamingoes have been when going through the Suez Canal; here one may generally see flocks in the distance, and sometimes get a fairly good view with the aid of glasses. Flamingoes are wary and hard to approach, and need a great deal of stalking; and, as they are good eating if in condition, may fairly be called sporting birds.

They are very easily tamed, and if allowed the run of a large tank with shallow sides, will do admirably, finding much of their own food, and protecting themselves from vermin by sleeping a little way out in the water. If the tank is not large enough to supply them with all they require, they will be found to eat paddy as readily as ducks, if it be thrown in the water for them. I had two once which would follow me about for grain, though in their case it was quite a luxury. One whose clipped wing-feathers had been moulted out used to fly round and round the tank, and has even been known to leave and return to it. Altogether, on account of their harmlessness and ornamental appearance, Flamingoes are well suited for cultivation in hot climates, and I wonder they are not more frequently kept in public gardens. The ancient Romans used to keep them for the table, the large fleshy tongues being

considered a great delicacy. Flamingoes have never yet been bred in captivity, so any one who succeeds in getting a brood from them would probably find out much that is interesting about their habits.

The Small Flamingo.

Phœnicopterus minor, BLANFORD, Faun. Brit.
Ind. Birds, Vol. IV., p. 410.

In this species the upper chap of the bill fits not on top of, but *in between* the edges of the lower jaw—is counter-sunk, as it were; and this peculiar style of beak-structure will distinguish the Small Flamingo not only from its larger Indian relative, but also from all other birds whatever, except two of the American Flamingoes which have the same arrangement, which appears to be simply the carrying out of the idea of the Flamingo-bill to its logical conclusion, so to speak.

The lesser size of the Small Flamingo is also a marked distinction, but is the less valuable since our bigger bird varies so much. The Small Flamingo is about thirty-three inches long in the case of males, with a wing of thirteen inches and a half and shank of eight inches; very little smaller than small hens of the other. As in that species, also, hens of the present one are smaller than cocks.

In colour the Small Flamingo is pinker than the large one, and old birds are even splashed with crimson; there is also a band of crimson along the wing, and a crimson tuft in the armpit.

Young birds also appear to be darker than those of the common species, and the wings are lined beneath with pink.

The bill is claret tipped with black, the eyes yellow, and the feet bright red. Altogether this bird is a sort of boiled-down and concentrated edition of the other.

This is only an occasional visitant to India, turning up occasionally at the Sambhar lake—a great winter resort of the other species—at any time of the year. They may drop eggs with us, but are not known to breed here, their real home being Eastern Africa and Madagazcar. Any zoological garden would welcome this species, as it is very rare in captivity, even if it has been exhibited at all.

THE CRANES (*gruidæ*).

Few birds are more interesting than Cranes; their graceful beauty appeals to anyone who has the least perception of form and colour; their quaint habits and well-marked traits of character and disposition make them interesting to watch; and, finally, they will try the sportsman's patience to the uttermost if he would circumvent them, and furnish him, in many cases, with an excellent dish if his wiles are successful.

The cranes form a small family of sixteen species; they are often confounded with the storks and herons, in the other section, but present certain very obvious characters of their own. It is true, that like the other big waders mentioned, they are tall birds with long bills, necks, and legs, large broad wings, and short tails. But in the head and foot, looked at closely, differences are at once apparent. The Crane's bill is never so big and strong as the stork's or heron's; the gape of the mouth is not so wide, the corner of the mouth coming just below the forehead, whereas in the stork the mouth runs back nearly to the eye, and in the heron even beyond this. Moreover, the nostrils of storks and herons are set at the base of the bill as in most birds; in cranes they are much more forward—quite in the middle.

In the feet of the birds under consideration we find in the stork a well-developed back toe, coming fairly to the ground at its tip; in the heron the hind toe is even larger, and flush with the front ones all along; whereas in the crane the hind toe is a miserable little affair, set on too high up to be of any use, and reminding one of a dog's dew-claw.

Thus a stork or heron could be distinguished from a crane even by its footprints, without seeing the bird at all.

There is a reason in these distinctions. Storks and herons are carnivorous, catching and gulping down such creatures in the fish and reptile line as come in their way, and often tackling prey of considerable size. Moreover, they roost and make their nests on trees as a rule, and do a good deal of perching at all times. Cranes, on the other hand, live almost always on the ground, feeding much as game-birds do, on grain, herbage, and insects and such small fry. Hence they have no need of such a wide gape and a strong grip in the foot as the others possess.

It must be admitted that this correspondence of feeding habits with width of mouth does not always hold good: but in this case it is very obvious, and helps to distinguish birds often and easily confounded.

A very radical difference between storks and herons on the one hand and cranes on the other is the fact that the young of the former are helpless squabs, which are brought up in a nest where the parents drop the food into their mouths. The young of the cranes, on the other hand, are active and downy like young chickens, and follow the parents about from the first, though they are not averse to letting their elders find the food and hold it for them to peck.

They are thick-set little things compared to the old ones, and their down appears to be always buff coloured. Their first feathering is unlike their parents' dress; this, be it

remarked, is always the same for both sexes, which therefore look alike.

The eggs are two or three in number, placed in a rough nest on the ground or in shallow water, and are generally marked with dark spots. Few of the species, however, breed in Southern Asia, most migrating to the Northern tundras for this purpose.

The cranes possess a disposition very different from the gloomy ferocity of the herons and the stolid clumsiness of the storks. They walk and fly slowly and in a stately manner, it is true, but they are lively and cheerful to a degree, devoted to their mates, and addicted to social amusements and athletic exercises, in the way of dancing and running and playing with sticks when on the ground, and soaring about in the air. They fly with the neck and legs straight out, like storks, and their wings spread level as in those birds, not turning down at the tips as in herons. On a journey they travel in wedges like wild geese. They display much affection for their young, and are easily tamed, often becoming very affectionate, but sometimes showing a spitefulness which from their size is rather dangerous. Owing to their strength and courage they should not be approached carelessly when wounded, as they will fight hard under such circumstances,

No birds are so well suited for ornaments to parks and public gardens as the cranes. Owing to the above consideration, they should always be kept within a fence, pinioned or with their wings cut. Only one wing should be operated on, and the clipping need only be done once a year, as cranes, like the duck tribe, cast all their quills at once and renew them also simultaneously.

On this account they are unable to fly for a time at the moulting season, and many are captured in this way.

If so big a bird as a crane has to be pinioned, a veterinary surgeon ought to be entrusted with the work: the

pinion-joint should be taken off close up to the knuckle, as a good many quills have to be removed to stop a crane from going off even when handicapped.

Cranes do very well in big grassed enclosures along with deer or geese, and in the former case the beauty of the graceful beasts and birds, seen on an appropriate background, is very appreciable by the contrast. Water should, of course, always be accessible in the shape of a good-sized pond. In small enclosures cranes are apt to be spiteful, and in such cases pairs should be kept only, and by themselves. The male can generally be known by his greater size. Any ordinary mixture of vegetable and animal foods, such as is given to poultry, will do for cranes if they have a good grass range, and they should not be kept otherwise.

I need say nothing about cranes from the sportsman's point of view, as they are well known in this connection as being very wary game, but good when you have got them, as I remarked at the commencement. To the cultivator cranes have been known ever since the time of Virgil as unmitigated pests to the crops, but with the increasing demand for them as pets and ornaments the birds will soon be able to cry quits with humanity, like the parrots.

Cranes are found nearly all over the world, and six species occur in Indian limits.

What may be called the ordinary Indian Cranes then are five in number, and may be thus distinguished:—*The Sarus* and *Burmese Sarus* by their great size (well over four feet) and grey colour.

The *White Crane* is white or buff, and nearly as big as the *Sarus*.

The *Demoiselle* is much the smallest, being less than a yard long.

The *Common Crane* is of medium size, measuring between three and four feet.

The Sarus.

Grus antigone.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV., p. 188.

NATIVE NAMES:—*Sarus*, *Sirhans*, Hind. ; *Khirsang*, Assamese.

This huge bird is the largest of all cranes except the African Wattled Crane (*Buggeranus carunculatus*). It is very conspicuously coloured, the general hue being French-grey, with the head and upper part of the neck bare and bright scarlet. On closer inspection the pinion-quills will be seen to be black, and the feathers next the red part of the neck, white, forming a collar. The innermost quills or tertiaries, which are rather long and pointed, are also often white. The legs are pink, the eyes red, and the bill and crown of the head sage-green.

Young birds have the head covered with cinnamon-brown down, and the body plumage has also a mixture of brown. After losing the down of the head and before acquiring the scarlet warty skin of the adult, they look very pale and pasty in complexion for a time.

An old male will measure nearly five feet in length, with the closed wing just over two feet from knuckle to tip; the shank of such a bird will be a foot from hock to toes, and the bill just over half that, measured from gape to tip. Hens are rather smaller, but even young downy-headed birds are already big, and easily distinguishable by size from most other cranes.

This and the next species are our only resident crane; the present one ranges from the Indus to Assam, an Assam skin in the Indian Museum being undoubtedly referable to it. Its stronghold is the plains of Northern India, where it is a most conspicuous feature in the

landscape ; and, as it does not appear to be destructive, and is of no use for food, I hope will always be spared by sportsman, as it usually is at present. Considerable numbers are captured for export to European zoological gardens, and so specimens in various stages of maturity are generally on view with Calcutta dealers.

This crane is a very mixed feeder, taking much animal food ; it also flies less than most species, and does not rise high when it has occasion to travel on the wing. It is also less gregarious than other cranes, usually only a pair—sometimes with their young—being seen together, though small flocks may occur, probably composed of birds, which, as sufficiently mature, have been warned off the parental premises.

Freedom from persecution has made this crane tame ; the natives do not like killing even one, as there is good evidence that the survivor of a pair will pine to death in such a case. This big bird can have few natural enemies, but there is a native story, repeated to me by Mr. Rutledge, which represents it as exposed to danger from a tiny hawk, one of the Falconets (*Microhierax*), a bird hardly larger than a Sparrow. This little fiend is said to fly at the crane when on the wing, fasten on its side, and tear its way into the great bird's body in order to feed on its liver ! This is the sort of narrative that gets put down by closet naturalists as a most unmitigated effort of native mendacity, but it is rather surprising to find that the author of a recent book on "Temperate Chile" finds a very similar story current there about a minute owl and a big ibis. And I myself some years ago had a warning against disbelieving "improbable" stories by getting bitten in the eye by our old friend, the Long-snouted Whip-snake (*Dryophis mycterizans*) who has so long borne the supposedly undeserved reputation of an eye-biter among the natives.

As to the crane-and-falconet story, there is no doubt that these little hawks are, like most small predaceous animals, remarkably courageous; while a big bird is also very helpless on the wing. So that it seems to me that the proof we want is of the power of a bird so small as this hawk to fatally perforate the body of the great Sarus; just under the wing, between the coracoid bone and the first rib, seems to be the only possible place where such an injury could be inflicted.

The Sarus is certainly troubled with domestic misfortune, for though it always lays two eggs and even sometimes three, it commonly only raises one child. The nest is a big mass of grass, rushes, etc., placed on the ground and usually surrounded by water, the strategical advantage of such a position being fully appreciated by cranes generally, although it necessitates the young taking a swim at a very early age.

The eggs are naturally very big, nearly four inches long, and are white or nearly so, sparingly blotched with fawn and grey.

No account of the Sarus would be complete without mention of his voice. Cranes as a family are remarkable for their powerful voices and their inclination to use them. Many species, including the present one, seem to have need of so long a windpipe that it goes into coils, some of which are lodged *inside* the keel of the breast-bone. The Sarus' voice therefore comes straight from his chest, and the indulgence in part songs with his wife appears to exhilarate him immensely. As, however, the note is said to be audible two miles off, it is slightly oppressive close at hand, and when at the London Zoo I used to see the old cock begin to hitch his elbows and point his bill skywards, preparatory to an outburst of melody, I used to walk away as quickly and as far as possible, out of a prudent regard for the integrity of my ear-drums.

The Burmese Sarus.

Grus sharpii.—BLANFORD, Faun. Brit. Ind., Birds,
Vol. IV, p. 189.

NATIVE NAME :—*Gyogya*, Burmese.

This species resembles the Indian Sarus in most respects, but differs in being of a darker and duller grey, and having no white on the neck or tertiary plumes. It is also said to run smaller by Mynheer F. Blaauw, of s'Graveland, Holland, the author of a very fine illustrated monograph of the cranes, which gives very full information about these birds. He, as well as Dr. R. B. Sharpe of the British Museum, and Dr. Blanford, considers it as distinct, but it seems to me that the differences are very slight, although the only skin we have in the Indian Museum looks very dull and dark compared with skins of the common Sarus; this was collected by the late Dr. J. Anderson at Tsitkaw in Upper Burma.

The species inhabits the plains of Burma, and ranges east to Siam and Cochin-China. It is not yet known exactly where this bird meets its fairer relatives, but I expect it will ultimately be found that the birds themselves do not care a rap for the difference of complexion, and intermarry freely, producing intermediate forms. The habits appear to be the same as those of the western form, except that this species has been seen flying high and in large flocks.

The White Crane.

Grus leucogeranus.—BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 187.

NATIVE NAMES :—*Kāre-khar*, *Tunhi*, (U. P.) *Chini* ; *Kulang* at Hansi.

In this species the bill is longer than in any of our other Indian cranes, being two-thirds the length of the shank (from hock to toes), while in the others it is never much more than half. The face in old birds is bare all round to behind the eyes, the rest of the head being feathered. The tertiary plumes of the wing are not long, though they droop over and hide the tail.

The plumage in old birds is pure white, except for the black pinion-quills or primaries.

Young ones have feathered faces and are buff instead of white. The bill is brown, the bare face pink, the eyes yellow, and the legs and feet pink, with sometimes a black patch down the front of the shank which looks as if the bird had stumbled against the tarred fence.

A full-grown cock of this species will measure about four feet and a half, with a two-foot wing; the bill will be about eight inches, and the shank eleven; thus, apart from the colour, the difference in proportion will distinguish this bird from a small Sarus.

This splendid bird breeds in Siberia and used to be rather a rare visitor to India. Hume gives an excellent account of it in his "Game-birds." He found the bird wary and hard to shoot, and usually in family parties of two adults and one young one, evidently the joy and treasure of its parents. They always frequented *jheels* and fed on water-plants, and did not attack the crops. Mr. Rutledge of Entally told me that for twenty years he tried unsuccessfully to get live specimens of this crane, but

did not succeed till a few years ago, when he and one of the native dealers got so many that the market was quite glutted, and many were sent to Europe. Since then the bird got scarce again, so this was evidently only a temporary invasion.

As it is so harmless, I hope no sportsman will shoot it, especially as it is unfit for food, and in demand as an ornamental bird. It is extremely graceful, but less so in my opinion than some other cranes, and its yellow eyes give it a fierce heron-like expression. Its note, as I have heard it in the London Zoo, is much like that of the Sarus, though not nearly so strong, and given out in much the same attitude; but its windpipe does not coil and enter the breast-bone like that of the Sarus. Little is known about its breeding, so that anyone who would take a pair home or up to the hills and give them the run of a paddock and pond would probably be able to fill a gap in our knowledge.

The Common Crane or Coolung.

Grus communis.—BLANFORD, Faun. Brit. Ind., Birds Vol. IV, p. 186.

NATIVE NAMES :—*Kúrínch*, *Kurch*, *Kulang*, Hindi; *Kúnj*, Sind; *Kallam*, Deccan; *Kulangi*, Telugu.

This is a crane of medium size and very elegant form and carriage, with the tertiary plumes of the wing particularly well developed, long, broad, and loose textured; the bird also possesses the power of raising, and thus showing off, these plumes in a greater degree than other species, though all seems to do it more or less. The crown only is bald.

In colour this crane varies from light to rather dark grey, and the long wing plumes from grey with black tips to dull

black all over. The primary quills are black, and so are the tips of the others and of the tail, and the head and neck are slaty black, with the exception of two white bands which start as broad patches behind the eyes and, rapidly narrowing, run down the sides of the neck, joining a little way down and covering the back of the neck also.

The bare crown is black in front and red behind, the bill dull green, and the legs black; the eyes are red, brown or even yellow. *Young birds* have feathered heads and shorter and firmer tertiary quills; their plumage is grey with buff edges, and buff on the head and neck. A full grown bird is nearly four feet long, with the wing about twenty-two inches to the end of the *primary* quills, *not* the long tertiary plumes. The shank is about nine inches long and the bill about half that.

This species is *the crane par excellence*, and has the widest range of all, across the northern part of the Old World. It migrates south in winter, when it visits India, penetrating as far south as the Mahanuddy and the Bombay Deccan, beyond which its occurrence is open to doubt. It is commonest in the northern parts of its range with us, and never breeds in India, leaving the country about March as a rule. It is found in flocks, often of large size, and is very destructive to crops, attacking various sorts of grain and even water-melons. After such ravages it is very good eating, so that it makes some amends in this way. A good many are caught as ornamental birds, but the supply has been scanty for the last few years. Possibly the greater abundance, above noted, of the White Crane will account for this, for cranes will require a great deal of space per pair when breeding, and the grey bird may have been driven off its nesting ground in the north by the larger species. A very delightful account of the nesting of the Common Crane in Lapland has been given by Wolley,

who found the newly hatched young so innocently tame that one little thing which he had been fondling tried to follow him when he left it, though its parents were flying and calling overhead. It is greatly to his credit that he did not massacre the innocent, as many a less sportsman-like collector would have done. Mynheer Blaauw, in the work above cited, also gives a very interesting account of this crane and the care it takes of its young.

The voice of the Common Crane is a very fine trumpeting call, uttered both on the ground and in flight, and its coiled windpipe is lodged in the breast-bone as in the Sarus.

The classical ancients were well acquainted with this crane, which, with the wild geese, played havoc with their crops. The crane was also believed, as far back as Homer's time, to wage war against a very tiny race of men, the famous pigmies, who were only three spans high. It seems to me that there is a possible explanation for this story. We know there are very small and primitive human races. Now birds of the size of the Sarus would really be serious antagonists to ill-armed dwarfs not so tall as themselves, and it is quite possible that crane and pigmy fights did occur in which the birds did not always get the worst of it. The Greeks would then get hold of the story, and the size of the pigmies would get reduced to suit the crane which they were themselves acquainted with. If any one doubt this, let him go and catch a vicious tame Sarus with nothing but his hands !

The Hooded Crane.

Grus monachus.—SHARPE, British Museum Catalogue, Vol. XXIII, p. 257.

NATIVE NAME :—*Nabezuru*, Japanese.

This species also is of the Coolung type, but a smaller bird, being only about a yard in total length, with the wing about twenty inches, bill about four, and shank about eight. In colour it is of a dark brownish-grey, with the neck and whole head except the bald red crown, white, making a striking contrast. *Young birds* appear to be still darker, with greyish-white feathers on the crown. The bill is yellowish horn-colour, eyes orange-brown, and legs horny black.

This is another East Asiatic species, breeding in Eastern Siberia, and wintering in China, Corea, and occasionally Japan. It has also occurred in India, for our ablest field naturalist, Mr. E. G. S. Baker, has recorded it from Cachar, although the specimen was not preserved by an unfortunate accident. Mr. Baker calls the bird in his account in the Bombay Natural History Society's Journal *Grus monarchus*, the *King Crane*. But this is merely a slight slip; his description leaves no doubt that this was the species he procured. *Monachus*, the proper name, means a monk—no crane is called *monarchus*. Hume also saw in Manipur a flock of dark cranes with white heads and necks, so that this species evidently does occur in the eastern part of our Empire and should be looked out for there. If an opportunity of capturing specimens alive should occur, advantage should be taken of it, as the species is very rare in captivity. The French Missionary naturalist, Pere David, gives a touching account of the conjugal fidelity of this crane as observed in China by him. The female of a pair descended to her mate which had

been shot, and actually tried to raise him with her bill ; the case being the more remarkable, inasmuch as, of birds which pair, the male is usually the more devoted of the partners.

The Demoiselle Crane or Karkarra.

Anthropoides virgo.—BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 190.

NATIVE NAMES :—*Karkarra*, Hind. ; *Ghanto*, Nepalese ; *Karkuchi*, Mahratta ; *Kallam*, Deccan ; *Garara*, Uriya ; *Wada-Koraka*, Telugu ; *Karkoncha*, Canarese.

This is the last and least of all Asiatic cranes, and is easily distinguished by its small size and short bill, this being less than half the length of the shank. Its head, unlike those of our other cranes, is fully feathered, and even bears a fine curled hanging plume on each side behind the eye ; while the tertiary plumes are very long and narrow, though firmer in texture than those of many other cranes ; the lower part of the neck is also decorated with long pointed plumes, gracefully overhanging the breast.

The general colour is a clear light grey, with the pinion-quills and the neck black ; the face and cheeks are also black, but the crown is grey, and a streak from the eye, with the long plumes in which it ends, pure white. The eye itself is bright red, the bill dull green, with a reddish tip, and the legs black. *Young birds* have grey faces and their plumes are scantily developed.

The length is rather less than a yard ; the closed wing measures nineteen inches, the shank seven, and the bill only three.

This bird breeds in South and East Europe, and over a large part of temperate Asia, migrating south in winter,

when it visits us in flocks of great size. It is commonest in the Deccan, Guzerat and Kathiawar, and far from rare even as far south as Mysore ; beyond this it is rare, and altogether avoids the Malabar Coast, Ceylon, Lower Bengal, Assam and Burma. It is often wrongly called the Coolung. The Demoiselle is a well known sporting bird, hard to circumvent—as most amusingly described by “Eha”—and excellent eating. It is devoted to sport on its own account, being remarkably playful, whether on the ground or in the air. Its windpipe does not penetrate the keel of the breast-bone like that of the Common Crane, and its note is different and less musical.

It generally arrives in October, and leaves in April. It is readily tamed and makes a beautiful and interesting pet, but on account of its small size needs protection against vermin more than the larger species.

CHAPTER VII.

THE RAILS; WATERHENS AND COOT.

THE RAILS (family *Rallidæ*) steadily pursue as their policy in life the opposite to that inculcated on us in our youth—"to be seen and not heard," for they are a family of noisy skulkers. At the same time they are extremely interesting birds when one can make their acquaintance. It is true that a celebrated anatomist has called them "a feeble-minded cowardly group," but the anatomist should stick to his scalpel, like the cobbler to his last, and not confuse zoology by theorizing about animals' habits unless he knows of these by observation. Observation abundantly shows that Rails are intelligent—that is why they skulk, being indifferent performers on the wing—and particularly courageous, being more than a match for birds bigger than themselves. We have a good number of species of this family in India, including several particularly interesting ones, and some about which little is known. Thus, although "*kooch nai*'s", they will well repay study, and even in one or two cases help to fill the bag.

Rails are thin, slab-sided birds—"thin as a rail" is as trite a saying as "plump as a partridge;" they stand high on the legs, and have short tails, which the majority make the most of by jerking them up constantly. Their wings are rather short also, but their toes are very long, as a rule. The three front ones have no web at the base, although all the species can swim, and the hind

one is just long enough to be of use. The bill varies in length, but almost always has the nostrils in the form of a slit and situated in a groove and well away from the base of the bill. The bill itself is usually moderately stout, somewhat resembling a fowl's, not being really slender even when it is long.

I must admit that the Porphyrio or Purple Moorhen has a particularly stout bill, but he is "one of nature's gentlemen" and quite unmistakable in his rich attire. In almost all our Rails the eyes are red in colour.

The Rails, being so fond of cover, are naturally found where it is accessible, and generally on wet ground, or actually in swamps or on floating vegetation. They run, swim, and dive, and also climb and perch readily among the herbage. Their flight is very awkward-looking; their legs hang down as if broken for some distance after starting, and then are trailed out behind, while the wings keep up a steady but feeble-looking flutter. Nevertheless the Rails are great travellers; many migrate, and they have a way of turning up in the most remote and out-of-the-way places, often boarding ships at sea. Very likely they are liable to be carried away by the wind; they do not look as if they could resist it.

In the moulting-season they lose all their quills at once like the duck tribe, and so are unable to fly at all for a time. Like ducks, also, they are mixed feeders, taking insects, grain and other vegetable and animal food. They build large and untidy nests on or near the ground and lay several spotted eggs. The young run at once, but for some time the parents seem to find the food and hold it for them to peck. Their down is self-coloured, black or very dark brown, and not at all "protective," as they are quite easy to see. Both parents care for them, for Rails pair; there is no difference between the sexes as a rule, and but little between old and full-fledged young.

Their hues are often pretty, though very rarely bright, and they are not very difficult birds to identify. They fall naturally into three divisions :—

The typical Rails (four species), which have a longish bill, at least as long as the shank from hock to toes.

The Crakes (ten species), which have a short bill, much shorter than the shank.

The Waterhens and Coot (five species), which also have the bill much shorter than the shank and running into a peculiar plate or shield on the forehead, which is very noticeable.

These last are much the most noticeable, familiar, and interesting birds, and it is therefore best to begin with them. They are thus distinguished :—

The *Coot* by having its toes fringed with scalloped skin.

The *Porphyrio* by its very thick red bill and blue colour.

The *Watercock* by having the shield on the forehead pointed.

The *Moorhen* by having the toes flat beneath.

The *White-breasted Waterhen* by the white breast and chestnut stern.

The Coot.

Fulica atra.—BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 180.

NATIVE NAMES :—*Dasari*, *Dasarni*, *Ari*, *Khuskul*, *Khekari*, Hind.; *Burra Godan*, in Purneah.; *Boli-kodi*, Telugu.

The Coot is, it must be admitted, the least typical of our Rails, but I begin with it as it is a bird the sportsman often comes across. It is not so slim as Rails usually are, and does not jerk its very short tail, while the scalloped fringe to its toes is quite peculiar to it. Its bill and head, however, are very fairly characteristic.

The plumage of the adult bird is a slaty black in both sexes, with the bill and shield on the forehead a beautiful white, and the feet a sort of indeterminate greenish-grey colour. Young birds are brown with some white on the underparts.

The Coot is a big bird for this family, being sixteen inches long, with a wing of over eight from knuckle to tip. The shank is rather over two inches long, and the middle toe considerably longer, but the bill is comparatively short, about an inch from the corner of the mouth to the tip. The claws are long and sharp, and the bird scratches and bites hard. This is a very widely-spread bird, ranging over most of Europe and Asia, including India and Burma, but not Ceylon. Many Coots only come to us for the winter, but many also breed here; a bird I kept on the Indian Museum tank moulted in the cold weather, like so many of our resident ducks, showing that he belonged to the native race. The Coot, as Dr. Blanford justly remarks, is more like a duck than a Rail in many of its habits. It keeps much to open water, being rather a swimming than a walking bird, although it can get about well on land; and it flies more strongly than most Rails, though very awkward at starting.

It feeds on water-plants and small aquatic animals, and frequently dives for its food, taking a spring to do so, which lifts its body clear of the water. It is often found in great numbers, and ducks appear to like its company, so that it is a good bird to encourage where their presence is desired. In the hills it breeds in May and June, but later in the plains, making a large rough nest of weeds and rushes in shallow water among the reeds. The eggs may be as many as a dozen, and are grey or pale brown speckled or spotted with black, and nearly two inches long. Coots are edible, but need skinning, as the skin is tough and rank in taste.

The Moorhen or Waterhen.

Gallinula chloropus.—BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 175.

NATIVE NAMES :—*Jal-murghi*, Hind.; *Dakah-paira*, Bengali ; *Jumbu-kodi*, *Boli-kodi*, Telugu.

This bird is probably familiar to most of my readers, as it is the commonest Rail, and indeed the commonest waterfowl of any sort, in England, where it has become practically domesticated in the London parks; but in case anyone does not know it, I may mention that it is of a dark slate colour with olive-brown back and wings, set off by some white streaks on the flanks, and a very continuous patch of white under the tail. The bill is yellow at the tip, but red at the base; the shield on the forehead continuous with it is also bright red, and rounded behind. The legs are olive-green with a red ring above the hocks. The toes are flat beneath, their edges being furnished with a narrow fringe of skin. There is no sexual difference, but young birds are very much lighter and browner than the above description, and have much white below, while they are without any red on the bill and head, having dull green instead; indeed they look quite a different species from the old ones at first sight.

The Moorhen is about a foot long, with a wing about six and-a-half inches, and shank nearly two; but it varies in size, and birds in India are not so big as those at home.

The range of the Moorhen is very wide indeed, for it is found nearly all over Europe, Asia, and Africa, and America is inhabited by a species which can hardly, in my opinion, be called distinct; it is rather larger, but this cannot be called a specific difference, and the only other is that the shield on the head is squared behind instead of rounded.

The Moorhen is found with us as a resident or more or less a migrant in search of suitable watery localities with plenty of cover. It swims a great deal, runs actively on land, and perches freely; it is a mixed feeder and takes very kindly to food provided by man. It is itself quite eatable, though not first-rate. Most people probably have seen its nest at home, a bulky mass of vegetation placed among rushes or on a low branch. The eggs number five to nine, and are about an inch and a half long, of a pale stone-colour with reddish and purplish spots. The Moorhen is not so common a bird in India as in Europe; I never saw it wild, though it was frequently brought into the bazaar at Calcutta in my time.

The Porphyrio or Purple Moorhen.

Porphyrio poliocephalus.—BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 178.

NATIVE NAMES :—*Kaim*, *Kalim*, *Kharim*, *Khima*, Hind.; *Nila boli-kodi*, Telugu; *Kittala*, Cingalese (in the Southern Province, *Indura-kukula*); *Sannary*, Ceylonese Tamil.

But a brief description is needed of this bird; it is as big as an ordinary fowl, with a thick finch-like bill with small round nostrils, large square-ended shield on the forehead, and very long legs and toes, the bill, shield, and feet being bright red. The body plumage is a beautiful blue of various shades, with a white patch under the tail. The head is usually grey, but I cannot agree with Dr. Blanford that this grey colour is due to the wearing away of the feathers; on the contrary I have noticed that very hoary-headed birds have pale grey edges to the other feathers, so that abrasion of the feathers would not

make them greyer, and I consider such birds to be of what bird-fanciers would call a "mealy" type, similar to what occurs in some finches.

The sexes are alike, though the male is bigger and more powerful, but the young are distinctly duller, both in plumage and colour of bill and feet. In length this fine bird measures about a foot and a half, with the folded wing, which is rounded and fowl-like, ten inches, and the shank over three.

This bird ranges from the Caspian to Burma, is a resident with us, and one of the greatest ornaments of our marshes. It keeps to thick cover and is an active climber, but does not swim so much as the common Moorhen. It is more of a vegetable feeder than most Rails, and does much harm in paddy-fields; when feeding, unlike other wading-birds, it often holds its food up in one foot. It breeds from July to September, making the usual rush nest, and laying sometimes as many as ten eggs, but usually fewer, of a pinkish colour with reddish and purplish spots, and nearly two inches long. The young are black, and very independent little things, judging from those I saw bred at the Calcutta Zoological Gardens in the large Water-fowl Aviary there. They did not attempt to follow the parents, but these had to follow them if they wanted them. It was very pretty to see the old birds standing in a pan of paddy and water, and picking up the corn grain by grain to feed the young ones. The old ones (there were more than one pair in the aviary) fought savagely at times, clenching each other with their long toes. When angry or amorous they puff out their white under-tail coverts. They also clap their wings back to back at times, rather like the common cock. The *Porphyrio* makes a nice pet, but it must not be confined closely with weaker birds; and, if kept loose in a compound, it must be remembered that it, like most Rails, will climb like a cat, so that a clipped wing will

not necessarily confine it. I have also heard of a specimen which attacked a child and always "went for" a native it disliked. The name *Porphyrio* is really a classical one (from the Greek *Porphyros*, purple) and not an ornithologist's barbarism, and the European *Porphyrio* (*P. cæruleus*) was a favourite bird with the ancient Romans. For a wonder they did not keep it to eat, but because they credited it with a strong aversion to breaches of the conjugal tie in its owner's household! This may have arisen from cases like that I have mentioned above, if the bird happened to show aversion to the erring person; but considering the state of morality among the wealthier Romans, I fear that accidents must have often happened to pet *Porphyrios*!

The Water-cock or Kora.

Gallixrex cinerea.—BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 176.

NATIVE NAMES:—*Kora*, *Kongra*, Hind.; *Kettala* in North Ceylon; *Willikukulu* in the south; *Tannir-koli*, Ceylonese Tamil; *Boun-dote*, Burmese.

This is a peculiarly leggy, long-toed bird, with a shield on the forehead pointed at the back, and growing out there into a long horn in the breeding male, which also differs much from the female in plumage, and is much larger.

Out of the breeding season both sexes are pale brown, heavily streaked with dark brown above and finely barred with that colour below. In the breeding season the male becomes slaty-black nearly all over.

In the male the bill, shield, and legs are red; in the female the bill is yellowish and the legs are dark green;

the eyes, which are red in the male, being brown. Young birds are like the hen, but less barred below.

The cock is nearly a foot and a half long, with the wing over eight inches, and the shank three, the middle toe being even longer than this. The hen is only fourteen inches in length, with the wing seven inches, and the shank about two and a half.

The Kora is found nearly all over the Empire in warm wet districts and extends east to Japan and Java; it is supposed to be common, especially in Bengal, but I never saw it in the Calcutta market, and have had one sent to me by an experienced and observant Calcutta shikari as a remarkable bird he did not know. It is a skulking nocturnal bird, so is probably often passed over by sportsmen; but these habits would not save it from the poaching methods of the bazaar pot-hunters. In Dacca, Sylhet and Assam, it is often kept tame, and the tame males will grapple the wild ones when let out to fight them, so that they can thus be captured. I have heard that these tame birds are sometimes hatched by a very ingenious method; the egg is put in some cotton-wool in a half shell of the cocoanut, and this tied over a native's stomach till it hatches! These eggs are of the usual Rail type, stone-coloured with reddish and purplish spots, and rather over half an inch long; they are laid in the regular mass of vegetation among reeds or on floating growth, in July and August. The note of the bird is described as a loud booming, chiefly uttered in the breeding-season. This species is chiefly a vegetable feeder, and deserves attention from shikaries, as all agree that it is excellent eating.

The White-breasted Water-hen.

Amaurornis phoenicurus.—BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 173.

NATIVE NAMES :—*Dawak*, *Dahak*, *Dauk*, Hind. ; *Kinati*, Oudh ; *Kurahi*, in Sind ; *Kureyn*, Gond ; *Boli-kodi*, Telugu ; *Tannin-koli*, *Kanung-koli*, Tamils of Ceylon ; *Kálu-gwet*, Burmese.

This pretty bird is our commonest member of the family, taking the place of the Moorhen at home ; it is at once recognizable by its very striking colour, slaty-black above and pure white below and on the forehead, with the stern chestnut. The bill is yellowish-green, red at the base and on the small shield, and the legs are yellow. The sexes are alike, but young birds are brown above and have the white parts clouded with dark edgings to the feathers. The length is about a foot, with the wing about half that, and the shank two and a half inches.

This bird is found almost all over the Empire, and is a familiar species, often found near houses, where it will even come for food if grain be thrown out ; in this and other habits it is much like the Moorhen in England, but does not swim so much. It breeds regularly in a wild state in the Calcutta Zoological Gardens, where the funny little black young may often be seen. It breeds from May to September, and builds higher than most Rails, usually on reeds and bushes ; an instance has been recorded of its breeding in a palmtree, when it ran up the trunk like a ladder. It has a most extraordinary note, very loud for its size, almost amounting to a roar at times ; indeed Mr. Aitken credits it with emitting noises such as might be expected to be produced by a bear if roasted alive before a slow fire ! It must not be imagined, however, that it is an unpleasant bird to have about, for I never

heard anyone complain of the noise it made, and such a pretty, tameable bird deserves all the encouragement that can be given it, and should be fed and protected whenever possible, as it is a great ornament to a public garden. Its eggs are laid sometime between May and September, and are about an inch and a half long, numbering four to eight, and buff with the usual reddish and purplish markings. Specimens of this bird from the Andamans have very much more white on the head and less on the breast, but as birds marked like this are now and then found on the mainland, the variety can hardly be ranked even as a sub-species.

CHAPTER VIII.

THE RAILS—(*concluded*).

HAVING disposed of the aristocracy of this family, we can proceed to deal with the rest of them, which bear no escutcheon or caste-mark on their foreheads, with the brevity they merit, being small birds of small account as a rule, though interesting as subjects of ornithological research, as not much is known about many of them.

Of the *long-billed* species there are only two really distinct, the other being hardly more than local races of these, so that I will not give a key to these.

The Indian Water-Rail.

Rallus indicus.—BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 158.

This bird has the longest bill among our Rails, except its near ally following. In colour it is streaked with black and brown above, plain slaty-grey on the face and below, with a wash of brown on the breast, and the flanks transversely barred with black and white. The chin is white, the under tail-coverts black edged with white, and there is a dark streak from the bill along each side of the head. The sexes are alike, but young birds have white bars on the wing-coverts. The bill is dark with the base of the lower jaw scarlet in old birds, yellowish in young: the legs are dull brownish-pink.

The bird is nearly a foot long, with the closed wing five inches, and the bill an inch and three-quarters, the shank being a little shorter.

This is the Eastern form of the Water-Rail of Europe, and like it, a great skulker. It ranges from Sind to Japan, and is only a winter visitor with us. It is not known to occur in Southern India, and though said to be common in Bengal, it seldom appeared in my time in the Calcutta market. It has a croaking call.

The European Water-Rail.

Rallus aquaticus.—BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 160.

This only differs from the Indian bird in having no brown streak along the grey sides of the head, at any rate, behind the eye, and in the breast being pure grey; also there is more white than black in the under tail-coverts.

This is a rare bird in India, a few individuals only being on record, from Gilgit, Kulu, Dehra Dun, and perhaps one or two other places.

The Blue-breasted Banded Rail.

Hypotaenidia striata.—BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 160.

NATIVE NAMES :—*Kana-koli*, Tamil; *Wade-koli*, Telugu; *Yays-gyet*, Burmese.

This has a shorter and thicker bill than the last two, but still equalling the shank. It is very distinctly coloured, chestnut on the crown and back of neck, brown-speckled with white on the rest of the upper surface, grey on the face, fore-neck, and breast, and dull black with white bars on the rest of the under-surface and flanks: the throat

is white. Hens are duller than cocks, and dirty white in the middle of the belly. Young birds have a brown cap and no white cross-bars on the back.

The bill, feet, etc., are variable in colour, the former being brown with the base below some shade of red, and the latter olive-green or grey; the eyes may be yellowish-brown instead of the usual red of the family.

This bird is a little over ten inches long, with the closed wing about five, and the shank and bill about one and a half inches each. It is a widely-spread species, found probably over most of our Indian Empire, though of late years it has not been found in the Punjab or North-West Provinces. Outside our dominions it extends east to Celebes. It is resident and breeds from May to October, making a mere pad of grass for a nest, and laying five to seven eggs rather over an inch and a quarter long, and blotched with reddish and purplish on a pinkish-buff ground. This is not so noisy a bird as many Rails, only occasionally giving a sharp low whistle.

The Andamanese Banded Rail.

Hypotaenidia obscurior.—Blanford. Faun. Brit. Ind., Birds, Vol. IV, p. 162.

This is the Andamanese edition of the last bird, and only differs from it in being larger and darker, with a bay cap and hind-neck, narrower white pencilling above on a darker ground-colour, and a slate-coloured breast; it measures a foot in length, with wing about five and a half inches, and bill one and three-quarters. The eggs are four to six in number, and larger than in the mainland species.

With regard to the *short-billed* shieldless Rails, or Crakes, the ten species we have to deal with are not hard to sort by ranging them in sections according to obvious peculiarities of colour.

The *Corncrake* is distinguished by its chestnut wings.

Three of the rest have more or less black streaks and white speckling on the back.

Three more have plain backs and conspicuously banded bellies.

The other three are also plain-backed, and are not banded below either.

The Corncrake or Land-Rail.

Orex pratensis.—BLANFORD. Faun. Brit. Ind.,
Birds, Vol. IV, p. 162.

After the Moorhen this is the commonest British Rail, and most people know the grating noise it makes. As, however, few see it unless brought to bag among the partridges, it is as well to describe its appearance briefly. It has a short bill, and shorter toes than Rails usually have; its plumage is light brown streaked with black above, with the flanks cross-barred with brown and white, and the wings plain chestnut, bearing a few white bars in young birds. The beak and feet are also light brown, and the eyes brown too. The length is ten inches, with the closed wing six, shank one and a half, and bill about one.

In summer the cheeks are grey, and there is a wash of grey on the breast, but as the only Land-Rail certainly known to have been killed in India (in Gilgit) was shot on October 8th, it is not very likely to appear in this plumage. The normal range of the Corncrake is Europe and Central Asia in summer, and Africa and Arabia in winter.

Of the three following species with white-speckled backs, all have long toes, the middle longer than the shank.

The Spotted Crake.

Porzana maruettæ.—BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 166.

NATIVE NAMES:—*Gurguri-khairi*, Bengali; *Venna mudikoli*, Telugu.

The very pretty plumage of this bird would take some space to describe fully, but is fortunately so distinct that a very brief outline will suffice. The upper plumage is brown with black streaks and the lower grey, and both upper and underparts are speckled with white; the flanks are barred with brown and white. The sexes are alike, but young birds have a brown breast and white throat. The bill is yellow and the feet olive-green.

The length is nine inches, and the wing four and three-quarters; bill rather under one inch, and shank decidedly over that length.

This species is migratory, living in Europe (including Britain) and eastwards to Central Asia in summer, and in winter visiting North Africa and our Empire; it is not, however, as yet known from Assam nor east of Arrakan, while since Jerdon's time it has not turned up in Southern India. It is a very shy bird.

The Eastern Baillon's Crake.

Porzana pusilla.—BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 165.

NATIVE NAME:—*Jhilli*, Nepalese.

This tiny bird is our smallest Rail, being hardly bigger than a Sparrow; its plumage is brown with black streaks above, grey on the face and breast, with the belly barred black and white; the back is very distinctly streaked

with white, the first quill edged outside with white, ~~and~~ there is a brown streak along the face running from the bill. The sexes are alike, but the young bird is buff below where the old bird is grey. The bill and legs are green.

The length is seven and a half inches, with the wing three and a half, shank just over one, and bill about three-quarters of an inch.

This bird inhabits Eastern Asia generally, from Baluchistan eastwards, and seems to be found all over our Empire, many being only migrants, however. It breeds from June to September, but not later than July in the Himalayas. The eggs, in a rush nest among aquatic vegetation, are a little over an inch long, and pale olive with a liberal speckling of darker markings.

This is hardly distinct from the true Baillon's Crake of Europe (*Porzana bailloni*) which only differs in having no brown streak through the eye, the difference being thus similar to that between the Indian and European Water-Rails dealt with above. It is a great pity that slight varieties like these are treated as species at all.

The Little Crake.

Porzana parva.—BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 164.

This, although very small, is a bigger bird than the last, and also shows a well-marked difference between the sexes. The male is olive-brown above with dark streaks, and some white streaking between the shoulders, and light slate-colour below and on the sides of the head. The hen has the throat white, the breast and belly buff, and the stern and thighs brown-and-white. Young birds more resemble her, but have more white streaking above and dark barring below. The bill and feet are green.

The length is about eight inches, with the wing about four, shank rather over one, and bill just under the inch.

The Little Crake, always distinguishable from the last by not having the first quill white-edged, is a Western species, inhabiting Europe, Africa and South-Western and Central Asia. It is common in Sind in the winter, and has been noted, on passage, at Quetta and in Gilgit. In habits it is a beautiful miniature of the Moorhen, being very aquatic. It has not been found breeding in India, but if it does turn out to do so the nest and eggs will be found to be similar to those of the Eastern Baillon's Crake.

The plain-backed Rails with banded under-surface are all rather high on the leg with comparatively short toes, the middle toe being shorter than the shank; the wing is rounded. None of the three species seem well known. They are about the size of the White-breasted Water-hen or smaller.

The Banded Crake.

Rallina superciliaris.—BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 167.

NATIVE NAMES :—None known; but the Dutch in Ceylon call it "Nordewind."

In this species the head, neck, and breast are chestnut, the throat being white or nearly so; the rest of the upper parts are duller, a brownish olive; the under parts below the breast are barred black and white. It is believed that this plumage, which belongs to the adult male, is worn by old females also; but hens usually have only the face and front of the neck and breast chestnut, and young birds are brown even here.

The bill is dark brown above, green at the base and below, and the legs are slate-coloured.

The length of the bird is about ten inches, with the wing half that. This is a mysterious creature, visiting Ceylon in winter regularly, and also turning up at this season in various places on the mainland of India and Burma, east to Malacca and Singapore ; but whence it comes and where it breeds is not known, and outside Ceylon it is a mere straggler. It arrives on the west coast of Ceylon with the north wind, whence its Dutch name, and appears exhausted hiding even in houses. Afterwards it goes off to the hills, where it seems to be rather terrestrial in its habits.

The Malayan Banded Crake.

Rallina fasciata.—BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 169.

This is a very similar bird to the last, but is smaller, redder on the back, and has the base of the bill, eyelids, and feet red.

It is found from Karennee east through the Malay Peninsula and islands to Celebes and the Moluccas, and seems to be a resident, but nothing is known about its nesting habits. It lives in scrub and brushwood near wet land.

The Andamanese Banded Crake.

Rallina canningi.—BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 169.

This very distinct-looking bird is one of the most beautiful of our Rails. It is if anything larger than the common White-breasted Water-hen, with a longer tail than Rails usually have ; the wings are unusually short, the pinion quills not reaching to the end of the secondaries, and thus being concealed when the wing is closed.

The colour is a very rich deep bay or reddish chocolate, with the belly and flanks very distinctly barred with black and white. This colour is set off by a bill of the most delicate light green, and the usual red eyes; the feet are olive-green.

The length is thirteen and a half inches with the wing six and a quarter. The species is only found in the Andaman Islands, where it lives on swampy ground and near streams, feeding on small forms of animal life. Its nest has been taken, with six eggs, in the middle of July; it was made of grass. The eggs are about an inch and a half long, and pinkish with brown and purple markings. The bird bears captivity well, and I have seen it in the Zoological Gardens of both Calcutta and London.

The remaining Rails have the usual long toes, and are almost self-coloured; they are all small birds and resident in our limits. The White-breasted Water-hen is placed in the same genus with them, but as in so many points it resembles the true Water-hen I have treated of it together with these.

The Ruddy Crake.

Amaurornis fuscus.—BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 170.

This is a plainly plumaged bird, olive-brown above and pinkish chestnut below and on the face; but the feet are bright red, the bill being greenish-brown. Some birds have whitish throats, and the young always show this, being also olive all over without the ruddy tint.

The length is eight and a half inches, with the wing four inches. This pretty little Crake is generally distributed over the Empire, and ranges east of it to Java and Japan. In Ceylon it is a winter visitor and is rare in the Peninsula and unknown in Sind, Rajputana, and the Western Pun-

jab. It is aquatic in its habits, and breeds in Bengal during the rains, laying about five eggs a little over an inch long, and with a yellowish-white ground colour spotted with red and dull purple.

Elwes's Crake.

Amaurornis bicolor.—BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 171.

This species is slate-coloured except on the back and wings, which are reddish-brown; the tail is black. The bill is green, and the eyelids and legs are red. It is about the same size as the last.

Very little is known about it, as it has only been procured in Sikkim and the Khasi Hills, at about five thousand feet elevation, where it frequents grass near water. An egg believed to belong to it was of the usual Rail type, creamy with grey and brownish spots.

The Brown Crake.

Amaurornis akool.—BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 172.

The Brown Crake is almost as big as the nearly-allied White-breasted Water-hen, and is dark olive in colour, with the eyebrows, sides of head, and lower parts grey; the throat is white and the flanks brown. The bill is greenish and the legs fleshy brown or dull purple.

In length this species measures eleven inches, with a five-inch wing, but this applies to the male only, females being smaller.

It is a resident in Northern India, especially along the base of the Himalayas; it is rare in the plains, but has been recorded from several parts of Central India, Raj-

putana, and Mysore ; but although found in China, it does not seem to occur in Assam or Burma, except in the North Khasi Hills.

In habits it resembles a Moorhen, and exposes itself a good deal in the open. It is said to breed twice a year, in June or July, and again in August and September, the nest being like a Moorhen's nest. The eggs may number as many as eight, and are nearly an inch and a half long, white tinged with pink and spotted with reddish and purplish-brown.

CHAPTER IX.

THE FINFOOT AND THE BUSTARDS.

Neither of the above types are waders, the Finfoot being a swimming bird and the Bustards never going into water ; but they are so intimately related to certain wading families of this section, and are so interesting besides, that I make no further apology for devoting a chapter to them.

The extraordinary birds known as Finfoots appear to be nearly allied to the Rails.

FINFOOTS (*Heliornithidæ*).

In the Finfoots the bill, head, and wings resemble those of a Rail and the toes, three in front, one behind, are provided with scalloped lobes as in a Coot ; but the shanks are quite short, and the tail well developed. Only three species are known, one in Africa, one in Eastern Asia, and one in South America and nothing is known about the breeding habits of any of them, except that a male of the South American kind (*Heliornis fulica*) was once shot carrying two naked young under his wings. They are thoroughly aquatic birds, swimming low in the water and diving freely, like Cormorants.

The Masked Finfoot.

Heliopais personata.—BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 182.

The general colour of this bird is brown above, white below, the male having a black face and throat, and the

female with the throat white edged with black. Young birds are like the latter. The bill is bright yellow in the male, duller in the hen; the feet are green, the lobes edged with bright yellow in males, this edging being only slightly marked in hens; moreover, the male has brown eyes and the female yellow ones.

The length is nearly two feet, with the wing ten inches, and the tail half that length; the shank is two inches, and the bill nearly half an inch longer. Hens are distinctly smaller than cocks.

Although it has a very wide range, from Assam to Sumatra, and may be found anywhere there is water, from the coast to streams in the hills, this bird is nowhere common, and few specimens have been obtained. It runs and flies well, although essentially a swimmer; in the water only the head and neck appear. It feeds on shellfish and insects—probably fish as well; and it is itself very good eating. Nothing more is known about it, and anyone coming across it should do his best to get a live specimen and send it to the London Zoological Gardens; failing this, any bird killed should be preserved entire in spirit, as the species has never yet been dissected; it is wasting so rare a bird to make a skin of it.

THE BUSTARDS (*Otididae*).

Taken as a whole no family of birds can equal the Bustards as game, and it is a great pity they are not more numerous. Most of the species (there are about thirty in all) are found in Africa, but India is well off for them, having six, three of which are entirely her own; one, however, is the most casual of stragglers at present. No Bustards are found in the New World, though the Canada goose (*Branta canadensis*) has been given that name there in some instances; but one inhabits Australia.

Bustards usually affect dry open country, and hence might be introduced with advantage into many parts of the world where they do not at present occur. They do not range very far north, but can stand much dry heat. They are excellent eating as a rule, and first class sporting birds, the smaller species affording much the same sort of shooting as partridges, while the large ones require to be regularly stalked and are best killed with a rifle. The small species fly with a quick whirring flight, the large ones slowly and heavily like herons.

The appearance of birds of this family, the *otididæ* of naturalists, is very unmistakeable. They are nearly allied to plovers, and so have large wings and stand rather high on the leg, besides having bare hocks. But, as in the game-birds, their heads are small and their necks rather long, while their backs are broad and flat. Their feet are very characteristic, the toes being very short, almost as if docked, with blunt nails; there is never any hind toe, and the shanks are covered with small scales. The bill is either like that of a plover or pigeon, or inclines to the short subconical form of a game-bird's, such as partridge's or pheasant's; the mouth is always wide, running back to the eye. The eye itself is always large, and often yellow.

As Dr. Blanford well remarks in the fourth bird volume of the *Fauna of British India*, Bustards have a way of carrying their necks and legs almost at right angles with the body, which is very characteristic; so is the flatness of their heads and backs, and the way in which they tilt up their bills with an air of supercilious stupidity only equalled by the camel among beasts. Of course they always live on the ground, although ready enough to take wings out of danger; though they will often run if they can.

They also play about on the wing at times, specially the males in the breeding season. Most of our species

breeds with us ; the nest is simply a slight hollow in the ground, and the few eggs are olive with darker spots. The young are active little chicks clothed in speckled down. They fledge off into a plumage either like that of the old hen, or characteristic of their age. The sexes usually differ in size or plumage or both.

The males go through more exaggerated antics at the breeding season than any other birds, but if they are not actually polygamous, their ideas of marital duties appear to be lax, and the female has to do all the sitting and rearing. At other times they are quiet, rather uninteresting birds ; they feed both on small animals, such as insects, and vegetable matter—berries, shoots, seeds, etc., but their general tendency is rather insectivorous than vegetarian, and they are hardly ever destructive to crops, to which they probably do a great deal of good. Indeed, they are birds with which a country is never likely to be overstocked, and it is to be hoped that our game preservers will look well after their interests.

Should it be necessary to keep them in confinement, they will be found to do well in a dry aviary or enclosure and may be fed on such food as is given to young poultry, meal with hard-boiled egg, green food, boiled grain and chopped meat, etc.

If under netting they should have a string net ceiling under the wire, as they spring up violently when alarmed. They drink little if at all and do not bathe, rolling in dust like fowls. Travelling cages for them should have a canvas ceiling under the top, and be either well bedded down with sand or sawdust, or provided with a very close-meshed wooden or wicker grating above the real floor. The latter is the cleaner plan, but if the grating is not close they will get their legs broken.

Bustards all have much the same style of plumage, a more or less fine pencilling of black on buff, often very

delicate and beautiful; some males become very black in the breeding season, such as our Indian floricans. The down at the root of the feathers is pink. Irrespective of age or sex, our six species may be easily distinguished as follows :—

Two are very large :—

The great Indian Bustard is over a yard long, with a dark or spotted cap contrasting with the cheeks.

The great European Bustard is as large or nearly so, but has a plain light grey head, unlike any other Indian species.

Two are medium-sized :—

The Houbara is about two-and-a-quarter feet long, with a black and white ruff in both sexes and grey breast.

The Florican is also about this size, but the male has a black ruff and breast when in colour; when out of colour he has a speckled buff neck and breast, like the female always.

Two are only the size of large partridges :—

The Leek, with most of the pinion-quills narrowly banded black and buff; and

The Little Bustard with the pinion-quills broadly banded black and white.

The size is no guide to the relationship of the birds, however, as the great European and the little Bustards, and the Florican and the Leek, are allied respectively, while the great Indian Bustard and the Houbara stand by themselves. I shall begin with our rarest species, as it is the best known generally of all; this Bustard having once been a resident British bird.

The Great European Bustard.

Otis tarda.—BLANFORD, Faun. Brit. Ind. Birds,
Vol. IV, p. 193.

In this bird the build is heavy and powerful, the legs not being longer in proportion than a Turkey's and the bill somewhat like that of that bird, but proportionately longer and stouter. The male is much bigger than the female and has long bristly whiskers, but otherwise they do not differ much.

The general plumage of the male is light chestnut above coarsely pencilled with black; the head and upper neck are French grey, the lower neck dull cinnamon, forming a band across the breast; below this the underparts are white as also are the wings, except for the black pinion-quills. In hens and young cocks there is no brown band across the breast. The bill and feet are dull grey, and the eyes brown in both sexes. The male may reach a length of three-and-a-half feet, with a wing (closed) of two feet; the shank will measure over six inches, and the bill, from the gape or corner of mouth, half of this. The hen is less than a yard long, and has the closed wing under twenty inches.

The weight varies exceedingly; the only specimen ever killed in India, a hen, weighed only eight-and-half pounds, while large old males may run up to thirty, as they take several years to come to their full size. Such big fellows are called by the Spaniards "Moriscoes," or "Barbones" which I suppose may be freely paraphrased as "Turks" or "Whiskerandos," the allusion being to the old male's "Dundrearies," no doubt. When courting the male combines the extravagancies of the Pouter and Fantail Pigeons, besides turning much of his plumage the wrong way.

This species ranges across the temperate parts of the Old World generally, although the East Siberian form is

sometimes reckoned as distinct. It used to be found in England, but has long since been exterminated as a resident species, though stragglers occur from time to time, to be of course shot down on sight.

The same fate has recently befallen some of a number which were turned out in the hope of re-establishing the species; in a country so infested with collectors as England, it seems impossible to hope for a sportsman-like forbearance to a rare game-bird. Once only has this Bustard appeared in India to our knowledge; as above related, a female has been shot—out of a flock which were observed near Mardan, north of Peshawar, more than thirty years ago. One was shot by Lieutenant Rawlins of the Afghan Delimitation Commission, and it was noticed about this bird that its “scent” amounted to a positive stench; but notwithstanding this it proved to be good eating. This peculiar smell, which is said to be very attractive to some carnivorous animals, may be the reason of the curious antipathy between horses and Bustards; Pallas, in his “*Zoographia Rosso-Asiatica*” written about a century ago, states that horses will trample a sitting hen-bustard if he gets the chance; and male Bustards in England have in their turn got into trouble by attacking horses.

The great European Bustard feeds on herbage of various kinds and any small animals it can catch; it is known to be able to go for months without drinking, but I once saw one drink in the London Zoological Gardens. Similarly I have twice seen the great Laughing Kingfisher (*Dacelo gigas*) of Australia drink, but in these cases it struck me that the bird hardly knew how to do it. I mention this, because it seems to be often imagined that because an animal can do without water it never drinks at all; the fact being, more probably, that to many creatures water is merely a luxury in which they will indulge if it happens to be handy when they feel dry, although they may not normally seek or need it.

I hope that if any sportsman comes across a flock of the present Bustard he will not harry it for specimens, but be content with one, so as to encourage so fine a game-bird to visit us. As a matter of fact, it would be hardly necessary even to shoot a single bird for identification, for no other big bird has the characteristic colouration of this Bustard: the grey head and neck, buff-and-black barred back, and white wings with black quills, ought to make it recognizable at any reasonable distance.

The Little Bustard.

Otis tetrax.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 193.

NATIVE NAMES:—*Chota Tilur* in the Punjab.
Butterfly Houbara of some sportsmen.

This is a cobby little bird in build, quite a miniature of the great bird last described. In this species, however, the cock has no whiskers, and is slightly smaller than the hen, instead of a great deal larger.

Both sexes are buff, pencilled and blotched with black, with black pinion-quills white at the tip and base; the secondary quills and lower parts are all white, so that the bird, though brown when squatting, shows a lot of white when on the wing. *Females* may be distinguished by showing coarser pencilling and more black blotches on the back; the breast feathers also are buff regularly pencilled with crescent-shaped black bars.

The male in breeding plumage has not yet occurred in India. In this state the feathers at the back of the neck are lengthened into a mane, and the face and throat are grey, the neck and breast being black with a white neck-lace and a white breast-band below it. This plumage is confined to the sex.

The bill is dark, the eyes brown, and the legs dirty yellow. This species is only about a foot-and-a-half long with a ten-inch wing; shank two-and-a-half and bill one-and-half inches.

It inhabits Southern Europe, North Africa and Central Asia, being especially common and breeding on the Russian steppes. It also breeds in France, where it has increased of late years; its attempts to colonize England are of course frustrated by our "keen local naturalists" shooting the pioneers on sight! In India the little Bustard is only found in the extreme north-west of the Punjab, where it occurs regularly in winter. Occasionally it straggles east of the Indus, and may even get as far as Saharunpore. It affects fields of mustard during its stay with us, and is noticeable for flying high and as Hume says, fluttering and skylarking about in the air, whence no doubt the name of Butterfly Houbara. Its ordinary flight is described as somewhat resembling that of a partridge.

The Great Indian Bustard.

Eupodotis Edwardsi.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 195.

NATIVE NAMES:—*Túgdar*, Punjab; *Gurayin*, Hariana; *Sohun*, *Gughunbher*, *Húkna*, Hind.; *Serailu* H. (Nerbudda); *Bherar*, Saugor; *Hám*, Mahratta; *Mardhonk*, *Maldhonk*, *Karadhonk*, *Karlunk*, Deccan; *Tókdar*, Mahomedan Falconers; *Gurahna*, Sind; *Bat-meka*, Telugu; *Batta mekha*, Yanadi; *Gunad*, Pardi; *Kanal-Myle*, Tamil; *Heri-hukki*, *Arikujina-hukki*, *Yere-laddu*, Canarese.

This splendid bird is of a longer and lighter build than the European Great Bustard, having a bill like a plover's

on a large scale, and standing high on the legs. The wings are also very long and broad, and the tail is longer than in the birds above described. The sexes are much alike in colour but the male is by far the larger; both have a short bushy crest, and long neck feathering.

The *male* has a black cap, and a black band across the neck; with this exception the underparts are white, as is the neck; the upper parts are brown, the colour being produced by a beautifully minute pencilling of buff and black. The first quills are dark brown, the later ones grey, and many of the wing and tail feathers are tipped with white.

In the *hen*, the neck is pencilled with black (as it is also in young cocks) and the black breast band is not complete.

Quite *young birds* are spotted with buff on the cap and back.

The bill is dark, and the eyes and legs yellow of a pale tint. The male may reach four feet in length, and eight in stretch of wing; the closed wing will measure twenty-seven inches, the shank nearly eight, and the bill four-and-a-half; the tail just over a foot; his weight may be as much as forty pounds. The hen only just exceeds a yard in length and has her other measurements in proportion. Her weight will not exceed twenty pounds, and may be as little as ten.

This Bustard is exclusively Indian, but its range in our empire is restricted, for it is unknown not only in Burma, but in Behar, Chota Nagpore, Orissa, Bengal, the Malabar Coast, and Ceylon. It affects open dry country with little cover, but sometimes enters high grass or crops. It usually occurs singly or only two or three together. Its flight is performed at a low elevation, and is heavy and slow, like that of a vulture when not soaring; but the bird, in spite of its size, rises readily without running. Jerdon refers to a statement, which he discredits, that it can be ridden down if made to fly two or three times consecutively.

The bill is dark, the eyes brown, and the legs dirty yellow. This species is only about a foot-and-a-half long with a ten-inch wing ; shank two-and-a-half and bill one-and-half inches.

It inhabits Southern Europe, North Africa and Central Asia, being especially common and breeding on the Russian steppes. It also breeds in France, where it has increased of late years ; its attempts to colonize England are of course frustrated by our "keen local naturalists" shooting the pioneers on sight ! In India the little Bustard is only found in the extreme north-west of the Punjab, where it occurs regularly in winter. Occasionally it straggles east of the Indus, and may even get as far as Saharunpore. It affects fields of mustard during its stay with us, and is noticeable for flying high and as Hume says, fluttering and skylarking about in the air, whence no doubt the name of Butterfly Houbara. Its ordinary flight is described as somewhat resembling that of a partridge.

The Great Indian Bustard.

Eupodotis Edwardsi.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 195.

NATIVE NAMES :—*Túgdar*, Punjab ; *Gurayin*, Hariana ; *Sohun*, Gughunbher, *Húkna*, Hind. ; *Serailu* H. (Nerbudda) ; *Bherar*, Saugor ; *Hám*, Mahratta ; *Mardhonk*, *Maldhonk*, *Karadhonk*, *Karlunk*, Deccan ; *Tókdar*, Mahomedan Falconers ; *Gurahna*, Sind ; *Bat-meka*, Telugu ; *Batta mekha*, Yanadi ; *Gunad*, Pardi ; *Kanal-Myle*, Tamil ; *Heri-hukki*, *Arikujina-hukki*, *Yere-laddu*, Canarese.

This splendid bird is of a longer and lighter build than the European Great Bustard, having a bill like a plover's

I am inclined to think that there may be truth in the statement; Xenophon states that it was possible in his day to ride down Bustards (the great European species) like partridges, and the chuckor, which was the partridge the ancient Greeks know best, is nowadays ridden down by the people of Yarkhand. The wild peacock out here has been actually run down on foot, and the cow-boys in the United States sometimes ride down the wild turkey.

It may be urged that these latter are *short-winged* birds, very different from the large-winged Bustards; but a much better-winged and lighter bird than any Bustard, the well known Secretary-bird of South Africa, can be run down by dogs, its flight, though stately, being really singularly weak.

The great Indian Bustard is mainly an animal feeder, eating large insects and small reptiles, including snakes. Notwithstanding this diet, the young birds and hens are very good eating, although old cocks are rather coarse. No doubt, if the breast-cuts of such a bird were cooked as beefsteaks, the result would be satisfactory. No one ought to shoot hens of a species like this, which is so harmless and increases so slowly. Only one or two eggs are laid; these are very large, about three inches long, with a more or less olive-green ground and brown patches. The breeding season is from March to October, and at this time the male which is polygamous, shows off by expanding his tail and puffing out his neck, meanwhile uttering a moaning call. His ordinary or alarm note is described as resembling a bark or a bellow; it must be an extraordinary noise, and perhaps it is just as well for the success of his love affairs that he is able to say with Bully Bottom "I will aggravate my voice so, that I will roar you as gently as any sucking dove."

The Houbara.

Houbara macqueeni.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 196.

NATIVE NAMES :—*Tilúr*, Punjabi ; *Talúr*, Sindhi ; *Hobára*, P.

This bustard is similar in build to the great Indian bustard, with a plover-like bill and large wings and tail, and general form rather light. The male is only a little larger than the female, and both sexes are alike in colour, and have a ruff and crest at all seasons.

The upper plumage generally is a pale sandy brown, formed by a most beautiful and minute pencilling of black on buff ; the crest and ruff are black and white ; the wing-quills white and black also ; the breast is French-grey, and the tail barred with the same colour ; the belly and flanks white. The bill is dark above and pale below, the eyes yellow and legs and feet dull yellow.

The male is about twenty-nine inches long, with a wing of about fifteen, tail nine, shank nearly four, and bill two and a quarter. The hen is only a little smaller, as above stated, the length of wing and tail differing by less than an inch.

This most delicately coloured bird is a migrant with us, and affects sandy open country almost of a desert character. Usually it only visits the North-West, being common from September to March in the Punjab, Sind, Rajputana, North of the Aravallis, Cutch and Northern Guzerat ; stragglers have been shot as far east as Meerut and Bhurtpore. It is just possible that some breed with us, as they do so regularly as near as Afghanistan and Persia. It ranges westward in summer to Mesopotamia and has even occurred as a straggler in England.

It is the only Bustard which has been accused of damaging crops, having been stated to be destructive in young wheat-fields in the North-West. It is indeed more of a vegetarian than most of the family, and though usually good eating, may become rank by feeding on such strong flavoured plants as mustard. English specimens, however, have been found to have fed on insects, etc., and on the whole the species is no doubt harmless.

The Houbara's colouration harmonizes most admirably with the sandy soil the bird affects, and it is impossible to see when it has squatted. It is often hawked, and has a most curious device for protecting itself against a falcon, ejecting its fluid excrement over the bird of prey, which, if splashed thereby, gives up the chase in disgust. If this habit were more widely known, we might have the houbara rivalling the ostrich in metaphor.

The Florican and Leek resemble each other and differ from all our other Bustards in their long necks and legs, which cause them to have a very ostrich-like appearance; their bills are of the dove or plover type like the houbara's. The males are smaller than the females, and have a very well marked seasonal change of colour. Both are exclusively Indian birds.

The Florican.

Sypheotis bengalensis.—BLANFORD, Faun., Brit. Ind. Birds, Vol. IV, p. 200.

NATIVE NAMES :—*Charas*, *Charj*, *Charat*, Hind. ;
Dahar, *Ablak* (male), *Bor* (female) in the Terai ;
Uli mora, Assam.

The male of this species in breeding plumage has a long crest and long feathering all down the fore part of the neck

to the breast. All the plumage is black, with the exception of the wings, which are mostly white, and some buff pencilling on the back and tail. Some birds appear not to change this plumage when they have once attained it, but others do so, the difference possibly depending on age.

The male in undress, and the female at all times, are clothed in a finely mottled mixture of sandy buff and black.

The absence of conspicuous markings of other colours at once marks them off when in this stage from all our other Bustards, except the much smaller Leek next to be noticed.

The bill is dark above and yellowish below, and the legs pale dirty yellow; the eyes are yellow, but often brown in cocks.

The male is twenty-six inches long, with the wing just over thirteen inches; the bill is two and a half, and the shank nearly six inches. The hens run larger, with the wing up to nearly fifteen inches. The Florican is a purely Indian bird, and its range within India is limited, including only the country between the Himalayas and the Ganges together with the plain country of Assam; its stronghold is in the Terai grass jungles, and it is a resident; it affects cover more than other Bustards. It may occasionally straggle west even to the Jumna.

It is an omnivorous feeder, devouring both insects of reptile and berries, shoots, grass, seeds, etc. It is itself most delicious eating and one of our best game birds. The breeding season is in June and July, but the birds do not appear to pair or associate regularly, the hens merely coming to the cocks when invited by the peculiar courting gestures of the former. The cock at this season springs up above the grass and towers, with crest and hackle distended, uttering meanwhile a humming sound; and having by this method of matrimonial advertisement attracted the notice of the other sex, he shows off to them after the

manner of a Turkey-cock. The hens lay two eggs of a pale greenish stone-colour blotched with brown and about two and a half inches long. They are well hidden in cover, but there is no nest.

The flight of the Florican is steady and not very fast, and on the wing occasionally utters a metallic note like *chik-chik*, also given out when it is suddenly started. It does not fly far at a time, and often prefers to run or squat.

The Leek or Lesser Florican.

Sypheotis auritus.—BLANFORD, Faun. Brit. Ind. Birds, Vol. IV, p. 199.

NATIVE NAMES:—*Likk*, Chota Charat, Barsāti, Kala, Hind.; *Kermor*, Guzerat; *Tanmor*, Mahratta; *Chini mor*, Belgaum; *Khartitar*, Bhil; *Charas*, *Chulla Charas*, H. (S. India); *Niala Nimili*, Telugu; *Kannoul*, Canarese; *Warragu Koli*, Tamil.

The Leek is the smallest Bustard known, and peculiarly long in legs and neck, with rather short wings; otherwise in form and general colour it is a fairly accurate miniature of the large Florican.

The cock in breeding-plumage has neither crest nor hackle, but from each side of his head, behind the ears, spring three long ribbon-like feathers with widened tips.

These curious ornaments are black, like the rest of the head, neck, and underparts, with the exception of the throat and the back of the neck below, which are white; the back is finely mottled buff and black, and the tail somewhat similar but paler, with distinct black bars; there is a white patch on each wing, and the pinion-quills,

which run to very fine points as if cut in this way, are barred buff and dark brown, with a beautiful pink and green wash when freshly grown, according to Jerdon. I have, however, once seen it even in a stuffed specimen.

The hen is mottled buff and dark brown as in the larger species; and the male in winter plumage resembles her, but always retains some white on the "shoulder" of the wing. He is noticeably smaller than she is, being only a foot and-a-half long, with the wing nearly eight inches, shank three and a half, and bill two. The hen will be two inches longer, with a wing of nine and a half inches. The eyes, feet, etc., are coloured much as in the larger species.

The Leek, although a purely Indian bird like the larger Florican, has a wider range and is more inclined to wander than that species, as it may be found at times anywhere from the base of the Himalayas to the end of the Peninsula. Usually, however, it breeds in the north and winters in the South. One specimen has even straggled to Arrakan, but it is not normally found east of the Bay of Bengal, nor does it occur in Ceylon.

It frequents grass of moderate height or sometimes crops, feeding largely on insects. The breeding-season varies according to the locality, being chiefly in September and October in the north, and April and May in the south. Three or four eggs are laid, olive with darker mottlings, and nearly two inches long. The breeding cock has a habit of springing up above the grass much as does the other species, at which time he utters a peculiar croak. Although not so good as the large Florican, the Leek is excellent for the table; but this is no reason for shooting it out of season, as is too often done. It is certainly tantalizing to sportsmen to have the birds breeding in their district and then going off somewhere else for other people to shoot; but two wrongs don't make a right, and if the birds forget

their obligations, that is no reason why the shikari, who ought to know better, should do so. At the same time, a few cocks might no doubt be killed off rather advantageously than otherwise. No hens of any of our resident Bustards ought to be shot at any time, if it be desired that these fine sporting birds should maintain their numbers.

CHAPTER X.

THE PLOVERS, SANDPIPERS AND SNIPES (*Charadriidæ*).

THE Plovers, with their allies the Sandpipers, Snipes, Curlews, etc., form by far the largest family of Indian waders, numbering no less than sixty species. These are very diverse in form and size; their stature ranges from a fowl's to a sparrow's, and their beaks may be long or short, and straight or curved up or down. Their legs also vary in length, being usually on the long side, and very rarely as short as a pigeon's; the front toes have usually some web at the base, but this may be wanting; or on the other hand, they may be nearly as fully webbed as a duck's. Their wings, too, may be narrow and sharp, or broad and rounded.

Under all this dissimilarity, they have some points in common, the chief of these being the peculiar narrowness of the mouth, the corner of which never extends further back than the forehead-feathering, giving a peculiar "prunes-and-prism" expression to the bird's face which characterizes it at once. Some other birds have this short gape, notably ducks and parrots, but no one will confuse these with the present birds. The wings are always strong and at least moderately long, and usually have the tertiaries or inner quills very well developed, much as is seen in ducks and larks. In the feet, the hind toe is never well-developed, usually so small as to be useless, and often absent altogether. The tail is always short.

It is out of the question to treat the rather monotonous habits of all of these birds in detail in a work like this, so

a few general statements will have to suffice, except in the case of the snipes, which possess peculiar interest for sportsmen. The family are ground-birds, few ever perching, and only one nesting in trees, and that not in India. Most of them, indeed breed to the north of us, and only visit the empire as winter migrants.

They make hardly any nest, and their eggs are usually four in number, peg-top-shaped, and spotted; the young are downy and active and feed themselves from the first; their down is variegated and assimilates them to their surroundings. The food of the family mainly consists of small animal life, usually sought on wet ground; but some take vegetable food also. They are all edible themselves, though often little esteemed, and some have a very ancient and well-founded reputation as delicacies.

The sexes are usually alike in colour, but may differ more or less in size, and there is often a change in plumage according to the seasons.

In so large a family, with so great a variation in form and size, there must of course be subdivisions. The Plovers (*Charadriinae*) are easy enough to separate off as one sub-family, and I shall take them last, as some plover-like birds referred to distinct families will then have to be treated of. There have been various attempts to subdivide the rest, and of these Dr. Blanford's, in the fourth Bird volume of the *Fauna of British India* series, is in my humble opinion by far the best and most natural, he places the Snipes (*Scolopacinae*) in another sub-family by themselves, the Sandpipers, Curlews, Godwits, &c., in another (*Totaninae*); and includes in a fourth a few curious looking birds with pied plumage and queer bills, such as the Avocet and Oyster-catcher, under the name *Haematopodinae*.

These sub-families are easy enough to diagnose as follows:—

The *Plovers* have a short bill, not longer than a Pigeon's.

The *Snipes* have a very long bill, and large eyes set far back ; there is no trace in them of webs between the toes.

The *Oyster-catcher and its allies* (*Haematopodinae*) have pied plumage and long bills.

The rest, including *Curlews*, *Godwits* and *Sandpipers*, (*Totaminae*) have usually a drab, dun, grey or reddish plumage, never pied ; the bill is always longer proportionately than a pigeon's, and sometimes very long. It is rarely exactly like a snipe's, and the only bird that has it so has the toes webbed at the base.

It seems best to take easily-recognizable though comparatively scarce types first, and then get on to the commoner and more confusing species.

So I will begin with one of the rarest of all.

The Ibis=Bill.

Ibidorhynchus struthersi, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 249.

This peculiar creature stands quite by itself, and its relationships are doubtful. It is rather bigger than a pigeon, with long thin bill curved downwards and stout legs of medium length with three toes only, the bill being red and the legs reddish.

The plumage, alike in both sexes, is mainly uniform grey above and white below the neck, with a black mask, black band across the breast, and brown pinion-quills white at the base. The young have no black on head and breast.

The length is sixteen inches, with the closed wing just over nine, bill about three and shank about two.

This is a Central Asiatic bird, also found at high elevations in the Himalayas, haunting stream-beds. It has also been found, but lower, in the Naga hills. It breeds in the

Himalayas about May, and according to native accounts the eggs are blue grey with dark spots; but no European has seen them yet.

The Oyster-Catcher.

Hæmatopus ostralegus, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 245.

NATIVE NAMES :—*Durya gujpaon*, Hind. ; *Yerri kali ulanka*, Telugu.

This also is rather larger than a pigeon, with medium legs of a stout type bearing three toes. But the bill is very distinctive, long, straight, and deep but narrow, with a chisel tip of great hardness; the neck is rather short. The plumage is black and white, the latter colour occurring on the belly and the bases of the wing and tail-quills. The sexes are alike, but young birds also have a white band on the throat. The bill is orange-red and the feet reddish.

The length is sixteen inches, of which the bill is about three; the closed wing measures ten, and the shank about two.

The Oyster-catcher chiefly frequents sea-coasts, and is found over most of Europe, including Britain, and Asia. It is only a winter visitor to India, commonest on the north-west coasts.

The Avocet.

Recurvirostra avocetta, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 248.

NATIVE NAME :—*Kusya chaha*, in Behar.

This is a very elegant slender bird, about as big as a pigeon in body, with long legs having the front toes well webbed, and the hind toe minute. The bill is long, flat, and very thin, curved upwards strongly, and tapering to a fine point.

The plumage is pied, being mostly white, but with the top of the head and back of the neck black, as also a patch on each shoulder and part of the wings. The bill is also black, and the feet a beautiful delicate grey-blue.

The length is a foot-and-a-half, the bill being well over three inches, and the shank a little more ; the closed wing is nine.

This beautiful creature, which gets its food by sweeping in the water with its delicate bill, is found over most of the old world, but is only a winter visitor to India, being rarer in the south than in the north, and absent from Assam and Burma.

The Stilt.

Himantopus candidus, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 247.

NATIVE NAMES :—*Gajpaon*, *Tinghur*, Hindi ;
Lal-gon, *Lae-thengi*, *Lam-gora*, Bengali.

The Stilt is about as big in body as a dove, but has enormously long legs with three toes only, long wings, and a long, thin, straight bill.

The old male is white with glossy green-black back and wings; females have the back and the parts of the wing adjacent of a brown colour, and young birds also have a black cap and are grey down the back of the neck. Yearlings have a drab cap and back of neck. The bill is black and the legs bright pink-red.

The length is fifteen inches, the bill taking nearly three; but the shank from hock to toes is no less than five, and there is a long bare space of leg above this; the closed wing also is over nine inches, and as the neck is long, there is little body left. The Stilt is rather a southern bird, being found in Africa, Southern Europe, and Southern and Central Asia. It is common in our Indian Empire in the winter, keeping in flocks and haunting shallow water. It seems to take vegetable as well as animal food, as one I kept ate canary-seed, though supplied with maggots. It breeds in some places in India, notably at the Sultanpur salt-works, and in other salt-water resorts. Sometimes only three eggs are laid; they are drab with black blotches and more than an inch and a half long. A little rampart of bits of stone is often placed round them, and they may be bedded on a few bits of grass.

CHAPTER XI.

SNIPES.

INDIA can fairly be called rich in the aristocratic section of the family *Charadriidæ*, for no less than six species of snipes visit or reside with us, without counting the "Painter" which is not a true Snipe at all but rather a pretentious Snippet, and will be dealt with in the next chapter.

To distinguish a Snipe from a Plover is easy enough, as a Snipe has a very long bill, and a Plover a short dove-like one; but the distinction between Snipes and Snippets is less readily made out.

All Snipes, however, have a very long bill, at least half as long again as the shank from hock to toes, and generally much more. Moreover they have the three front toes perfectly unconnected by any web, whereas in the few Sandpipers which have bills as long proportionately as a Snipe's there is always a slight web to be seen at the base of the toes; while those Sandpipers which have three toes have not so long a bill proportionately to the leg.

A Snipe is also remarkable for having very large eyes set very far back, over the orifice of the ear in fact; and, finally, the plumage of all Snipes is very characteristic, the back and crown being always largely black, whereas the prevailing colour of Sandpipers is always grey, drab, or brown.

Most Snipes also have a pale streak down the crown and down each side of the back, which is very noticeable.

The beak of a Snipe is very remarkable, being not only long, but very straight and rounded, with the upper bill markedly longer than the lower and thickened at the tip; the lower jaw fits closely behind this knob, so that the whole bill can be rapidly thrust into the mud in search of worms. When necessary the Snipe can open its bill at the tip without separating the jaws throughout, the upper chap being very flexible. The whole bill is soft and well provided with nerves, so that when the bird has been dead a little time the shrinkage of the soft parts gives the end of the beak a pitted appearance like that of a thimble.

By this peculiarity a Snipe may be known even when on the table, the only Sandpiper which has the same kind of beak being the Snipe-billed Godwit. (*Macrorhamphus semipalmatus*) which is a very rare bird, and, moreover, shows the web at the base of the toes.

In all Snipes the plumage is similar in both sexes, and does not differ much in the young; and in this work I shall not make any attempt to describe the complicated colouration in detail, but shall merely lay stress on those points which distinguish the various species from each other.

Snipes are found all over the world, some species being migratory and others resident; almost all of ours belong to the former category. More than two dozen species are known, of which four large ones are called Woodcocks; but the Woodcocks are not the largest of the Snipes, for in South America there are some very large species which are certainly typical Snipes, and one of these, the Giant Snipe (*Gallinago gigantea*) is bigger than any Woodcock. This bird inhabits Brazil and Paraguay, and ought to do well here.

It is a pity that some attempt is not made to extend the range of birds like this, which are of so great practical value,

and when live birds in aviaries are studied as generally as skins and stuffed specimens, we may hope to see some useful results arrived at in the acclimatization of new game birds. The idea that Snipes will not feed in confinement is a mistake, more than one species having been successfully kept in that condition. But of course their natural food of worms should be offered them at first; chopped parboiled liver is said to keep the common Snipe well.

Snipe as a group are very largely worm-eaters, but they also devour insects and small shell-fish. Worms, however, form their *piece de resistance*, and for obtaining this food their long bills are beautifully adapted, while the position of the eye so far back enables the bird to keep a look-out while it has got its bill in the ground. The idea that they "live by suction" is of course entirely wrong; as a matter of fact, they are most gross and greedy feeders.

In the northern countries where they breed, their nests are on the ground, and four eggs of a somewhat pear-shaped form, and very large for the size of the bird, are laid.

During the breeding season they, the males at all events, fly about, making various curious sounds according to the species.

They are not very sociable birds, and usually keep by themselves out of the breeding season, though a suitable locality may bring several together. They generally feed at night, and are quiet and inactive during the day. Indeed, compared with their lively relatives the Sandpipers and Plovers, they are very dull birds altogether—regarded simply as birds. Before the gun and on the table few birds, if any, are equally interesting.

To proceed to their discrimination and classification. The distinctions between Woodcocks and other Snipes are not very great. Woodcocks are more thick-set and shorter on the leg, which is feathered right down to the hock. Moreover, their wings are broader, and their heads

banded with black crosswise instead of longitudinally. They affect woods, as their name implies. We have only one *Woodcock* in India, and this is much bigger than any of our Snipes, being about fourteen inches long, while the others never more than barely exceed a foot.

Of the Snipes ordinarily so called, the *Wood Snipe* and *Solitary Snipe* are recognizable by their large size, being a foot in length.

The *Wood Snipe* is shorter-winged than the other big Snipe, having a wing of five-and-a-half inches from knuckle to tip as against six-and-a-half in the *Solitary*. It is, however, longer in the leg, the shank from hock to toes being more than half as long as the bill, whereas in the *Solitary Snipe* the bill is more than twice as long as the leg.

Then there are the two common medium-sized Snipes, between ten and eleven inches long, the *Fantail* and *Pintail*, which are easily distinguished by the peculiarity of the tails, the former having that appendage entirely composed of ordinary feathers, while on each side of the *Pintail's* there are several narrow, almost wire-like feathers, whence it derives its name.

The little *Jack*, which is as small as any Snipe known, is easily distinguishable by his small size, under nine inches, besides which his pointed tail and the green and purple gloss on his back mark him out at once.

Only four species of *Woodcocks* are known, of which only one is found in the continental part of the Old World; the other three being the *Moluccan*, *Javan*, and *American Woodcocks*.

The Woodcock.

Scolopax rusticola, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV., p. 283.

NATIVE NAMES :—*Simtitar*, *Tutitar*, Hind. ; *Sim Kukra*, in Kumaon ; *Chinjarole* in Chamba.

The word “titar” (partridge) in these names strongly recalls the “cock” in the English title. The Woodcock, is, indeed, rather like a partridge in shape, except for the big head and long bill, but its wings are of course much larger ; it shews none of the slenderness of form so common in waders ; its plumage is also rather like that of a game bird, being a rich mottling of various shades of black and brown above, and buff with dark bars below ; the quills are marked with chestnut on the edges, whereas those of our other true snipes are plain. The short tail is mostly black, tipped with dark grey above and silver white below it has twelve feathers. The beak is dark brown, becoming livid at the root, and the feet grayish. The eyes are dark, and very large and full. An old poet has the couplet—

“Fools are known by looking wise.
As men find Woodcocks by their eyes.”

And by acting on this I was able to pick out the Woodcock (American) from a photo taken under natural conditions, which was a regular puzzle of the “find the policeman” type, owing to the protective colouration of the bird : I recommend this old tip to people out Woodcock shooting. The sexes of the Woodcock are alike as in all true snipes ; the young are more boldly marked on the outer web of the first quill with chestnut, and also have more chestnut on the tail.

The bird is about fourteen inches long, with a wing of nearly eight inches, bill three and shank only half of this length, but Indian birds are smaller than European, and weigh about four ounces less—a fine European bird will weigh a pound. The common Woodcock ranges all across Europe and Asia, migrating southwards in winter. It breeds all along the Himalayas above ten thousand feet, coming down to the valleys in winter, or even migrating as far as the hills of Southern India, Ceylon, and Burma; in fact, at this season it may be found in any part of the Empire, but not commonly except in the Nilgiris. I have only once in eight years got a specimen in the Calcutta Bazaar, and it appears not to have been recorded from the Andamans or Nicobars. It comes down in November and returns to its mountain haunts in March. As implied by its name the Woodcock is a bird addicted to frequenting cover, lying quiet during the day and frequenting the margin of water, especially streams in its nightly search for food. It is of solitary habits, and is a gross and greedy feeder, devouring quantities of earth worms, and also taking grubs, beetles, &c. Its borings in search of food furnish a means of discovering it, as also its habit of turning over the dead leaves for the same object. In the Himalayas it breeds in June, laying four eggs in a hollow on the ground among moss or dead leaves; these eggs measure rather over an inch-and-a-half in length, and are marked with reddish brown and purple grey on a ground varying from buff to reddish drab.

At the breeding-season the Woodcock displays some very remarkable habits; the male in spring flies slowly about with puffed-out plumage, going backwards and forwards; this exercise, known as “roading,” is performed in the morning and evening, and the bird during it utters a peculiar note. Then the female, when the young are hatched, will carry them with her to escape danger, or to find a suitable

feeding ground ; they are held between the thighs, and also supported by the bill and feet. In this way the bird is able to fly with one of her offspring even when they have grown as large as Snipe. This shows the great wing power of the Woodcock, although its ordinary flight is heavy and flapping. It is, however, a notoriously deceptive flyer, having the power of darting off suddenly sideways, and also of alighting "all of a bloomin' sudden" as the sailor said.

Woodcock in India, however, are far tamer and easier to shoot than in Europe : they furnish a well-known object of sport in the Nilgherries, and, as everyone knows, are remarkably good eating ; in fact, almost the best of all birds for the table. Woodcock have been cited as among those desirable articles which cannot be increased in abundance by human agency. But this is hardly correct ; effective game preserving would undoubtedly increase their numbers, as it has done in England ; the eggs of such a bird should of course be held sacred from collectors ; and the detestable custom followed in Sweden of shooting the "roading" male should be regarded as poaching just as much as the old one of catching the birds in nets or springes.

Moreover, it would be highly advantageous to introduce this valuable bird into Tasmania and New Zealand, and this would not be at all impossible, for the Woodcock will live well in confinement. One survived for some years in the London Zoological gardens, being fed on chopped raw meat ; it looked healthy and was very tame, and I often amused myself by feeding it with lob-worms from my fingers, for it would come right up to the front of the Aviary for them. It has also been known to live in captivity on so simple a diet as bread and milk ; and a gentleman with whom I once travelled home told me that at his home in the hills in India, a wild Woodcock used to come

and feed on boiled rice with his fowls. Indian Woodcocks would, indeed, be the best for acclimatization purposes, since, as we have seen above, they are in many cases but slightly migratory. Now therefore that the New Zealand Acclimatization Societies have formed an Association, I hope they will have a try at the Woodcock, and as the bird is rare in Ceylon, Anglo-Indian sportsmen might do worse than make an attempt to establish it in the hills of that island.

The Wood-Snipe.

Gallinago nemoricola, BLANFORD, Faun. Brit. Ind., Birds, Vol., IV, p. 285.

NATIVE NAME:—*Ban-chaha*, Nepaulese.

This is a large Snipe of dark appearance, with comparatively short bill, wings, and tail; the quill-feathers are broad and soft, and on each side of the tail are four very narrow feathers, though the middle pairs are broad; there should be eighteen tail-feathers in all. The upper plumage is a mixture of black and dull buff; the lower white, strongly pencilled with dark brown; the quills are plain dark brown. The bill is dark brown at the end becoming paler towards the base, the legs are grey passing into flesh-colour behind.

This is a big Snipe, being about a foot long; but the bill and wing are only about as long as in the Common or Fan-tail Snipe, being about two-and-a-half and five-and-a-half inches respectively. The shank is rather long, nearly an inch-and-a-half from hock to toes. Altogether in size, make and colour this bird has an appearance intermediate between the Woodcock and the other Snipes. It is not a common bird, and is confined to the Indian Empire, where in summer it inhabits the Himalayas between Dalhousie and Sikkim, at elevations of from six to ten thousand feet.

It is also found in the hills south of Assam, Manipur and sometimes Burma as far as Tenasserim. In winter it occurs on the hills of Southern India, and a few casual specimens have turned up on migration in various localities—Calcutta, Russelkonda, Sirguja. Once it has even reached Ceylon. But little is known of its movements, and as it is a shy bird and seldom seen, it may be more widely distributed than is supposed. It flies slowly and heavily, much like a Woodcock, and is easy to shoot; it is solitary, and affects swampy patches on the outskirts of jungle, lying very close and rising reluctantly and in silence as a rule, though it appears sometimes to utter a hoarse croak. It does not seem to feed much on worms, rather affecting grubs and other insects, especially small and black beetles; small black seeds have also not unfrequently been found in its stomach. It is believed to breed in our hills, but the authenticity of the eggs hitherto attributed to it is questioned. Altogether, few of our game species need more study than this bird.

The Himalayan Solitary Snipe.

Gallinago solitaria, BLANFORD, Faun. Brit. Ind.,
Birds, Vol., IV, p. 290.

This is also a big Snipe, slightly exceeding a foot in length, with a wing of six-and-a-half inches and bill two-and-three-quarters. The shank, however, is less than one-and-a-half, not longer than that of the Pintail Snipe, which, on a larger scale, this bird much resembles. The upper parts are a particularly mixed mottling of black, buff and white, showing more of the last colour than most Snipes; but the details of the markings are rather variable. The under parts below the breast are white, barred with dark brown on the flanks.

The tail feathers may be as many as two dozen or as few as sixteen, but in any case some of the outer pairs are stiff and narrow. Those pin-feathers are white with dark brown bars, whereas in the Wood-Snipe they are plain brown. This point, with the longer bill and clear white belly, will easily distinguish the present bird from the Wood-snipe with which it is frequently confounded. One has only to see specimens of the two, however, to observe the difference, the "woodcocky" look of the Wood-snipe being unmistakable.

This is an East-Asiatic bird, ranging from Eastern Central Asia to Japan, with us it is found all along the Himalayas, and in winter has been got at their bases, at Kelat in Baluchistan, on the Garo and Khasi hills, and near Dibrugarh; once, even near Benares and near Devala in the Wynaad. It probably often gets passed over as a big Pintail, which it resembles in its flight and movements; when roused, also, it goes off with a harsh screeching version of a Common Snipe's call. It frequents open country, and feeds on grubs and insects. It breeds in the Himalayas, commencing in May: the males then soaring up with a sharp call, and coming down with spread tails and quivering wings, making a harsh buzzing sound. This is much what the Common Snipe does, but the noise made by the Solitary is shriller and louder, though it descends more slowly. It would be interesting to know what particular antics the Wood-snipe plays at this time. The eggs of the Himalayan Solitary Snipe are very characteristic of the species, being pinkish buff with blotches and spots of chocolate and purple. It seems that eggs formerly attributed to the Wood-snipe really belong to this species.

The Common or Fantail Snipe.

Gallinago caelestis, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 236.

NATIVE NAMES:—*Cháha*, United Provinces ; *Bharak*, Nepaul ; *Chegga*, *Khada-Kuchi*, Bengali ; *Cheryga*, Assamese, *Chek lonbi*, Manipuri, *Cháha-charai*, Uriya ; *Tibud*, *Pan Iowa*, Mahratta ; *Mor-ulan*, Tamil ; *Mukupuredi*, Telugu ; *Kaeswatuwa*, Cingalese.

This, the most widely distributed of all the snipes, is so well known as to require little description. Its upper plumage is a mixture of black and buff, with three creamy streaks on the head, one down the centre and the others above the eyes ; there are also two buff streaks down the back, and the tail has a cinnamon bar before the tip. The under surface below the breast is white, with dark bars on the flanks. The wing lining is also barred dark brown and white, but usually shews a clear white patch without any barring ; and the outer web of the first primary-quill is usually white or nearly so. These points need remembering *à propos* of the distinction between this species and the next ; but especially the facts that in the present bird the bill gets distinctly broader towards the tip and that its tail consists of fourteen or sixteen feathers of ordinary structure.

The species is a variable one in colour, the somewhat complicated pattern of the plumage differing in its details. Moreover it is liable to marked variations, fawn-coloured varieties with the markings present, but pale, being not uncommon, while there is also a dark or melanoid variety, formerly considered as distinct and named Sabine's Snipe (*Scolopax sabinii*).

In this form the general tone is dark and smoky and the marking is more in the form of regular tranverse pencilling than is normally the case ; but the appearance is not very unnatural, and the creation of a distinct species out of this variety is not to be wondered at. Most of the specimens on record have occurred in Ireland, but a few have been seen elsewhere. Until recently it had not been recorded from India, but shortly before I left Calcutta in 1903 a fresh specimen of a snipe was brought to me for identification which was an undoubted example of this form. The whole case of Sabine's Snipe much reminds one of the black variety of the leopard, which similarly occurs as a sudden and sporadic variation, but is more common in some places than in others. The bill in this species is brown, paler at the base and darker at the tip ; the eyes are also brown, and the legs olive-green. In the only fawn coloured variety I have seen alive, the bill, feet and eyes were of the ordinary colour.

In this Snipe the females run a little larger than the males, and have longer bills. The length is about eleven inches with the bill two and a half, the shank one and a quarter, closed wing five, and tail two and a quarter. The Common Snipe is found over most of the Old World, breeding throughout most of Europe and in Central and Northern Asia, and wintering to the southward in Northern Africa and Southern Europe as well as in our Indian Empire. Towards Southern India and in Ceylon it is rare, as also to the eastward in Assam and Burma. The nature of the ground it requires would naturally tend to cause its abundance to vary locally and likewise from year to year. It may come down from the north before the end of August, and remain till May ; but from September to March is the usual period of its stay with us in the plains. In Kashmir it undoubtedly breeds, although the eggs have not been found ; and probably it will be found as a resident in

other parts of the Himalayas. Mr. E. C. S. Baker has even two clutches of eggs taken in the Sonthal Pergannahs.

The Fantail Snipe is essentially a worm-eater, although it also eats aquatic insects and shellfish; the great sensitiveness of its bill, which is especially adapted for working in mud, is in relation to this diet. For this reason, too, the Fantail's requirements in the matter of a feeding-ground are somewhat special; there must not be too much water, as the bird does not like to get its breast wet; and on the other hand, the mud must be quite soft so as to be easily penetrated by the bill. It is thus easily understood that a comparatively small difference in the amount of water may be enough to spoil a jheel from the point of view of the snipe—and his persecutors. The early morning and late evening are the chief times of the Snipe's activity, and it sometimes sits up at night to feed, but in the day it rests among grass and reeds out of the water, or even on floating masses of weed in it, so long as there is enough for support, even if such natural rafts are half a mile away from land. In India, Snipe appear never to perch on trees, except occasionally in the hills, but they often do so in Europe and Northern Asia in the breeding season. At this time also they play in the air in a most remarkable way, rising to a great height and often uttering a call like "tchik tchak." After they have attained a sufficient pitch, they suddenly glide rapidly down with outspread tail and quivering wings, this descent being accompanied by a "bleating" or "drumming" noise, which is supposed to be produced by the action of the air on the tail feathers. The bird does not usually call vocally while drumming, but as soon as his descent ceases he utters his double note again on resuming his ordinary flight.

The female "drums" as well as the male; at any rate she has been known to do so under alarm.

As everybody knows, the snipe is a bird of very active flight in the ordinary way, and rises with a peculiar cry, something like "psip." But in India it is less swift and erratic in its flight than in England, no doubt owing to the heat. My friend Mr. W. K. Dods, who has, I suppose, killed more snipe than any one living in India, tells me that he has never got any of the off-coloured varieties I mentioned above. This seems to me a remarkable fact and I can only explain it on the supposition that these pallid birds, having learnt by painful experience that they are unduly conspicuous, lie closer than those of ordinary color and so escape the notice of the gunner, though not the nooses of the market hunter. This supplying of live Snipe in the market ought really to be put a stop to. Even if the birds were easier to feed in captivity, it is certain the native hawkers would make no attempt to keep them properly, and it is both cruel and impolitic to let numbers of this valuable sporting bird be poached and allowed to linger in agonies of hunger and thirst for days, to be sold at last a mere shadow of what it formerly was, and hardly fit for the table.

If people want to buy birds like this alive, they should encourage the taking of the ruff and reeve, which will live on grain and artificial food like chickens, and are nearly as good to eat as snipe, having been formerly esteemed as a great table delicacy when fattened. To return to the Snipe: for the guidance of those who wish to find it nesting in our limits, I may mention that the nest is a mere cup-shaped hollow in turf or similar lowly vegetation, and that the eggs are four in number, of an olive or greenish hue with blotches of brown of various shades. They are very round at the large and very pointed at the small ends, and measuring about an inch in length, are very big for the size of the bird producing them.

The Pintail Snipe.

Gallinago stenura. BLANFORD, FAUN. Brit. Ind., Birds, Vol. iv, p. 289.

NATIVE NAMES :—These appear to be the same as those applied to the ordinary Snipe, but the name *Myay-woot*, applied to Snipe in Burma, no doubt belongs to this species as it is the common one there ; and the same remark applies to the semi-English “Isnope” or “Isnipe” of Nilgiri shikaries. The Burmese name “Snite” given by Mr. Oates, also looks suspiciously English.

This Snipe is at first sight extremely like the last species, only the tone of colour being rather duller ; but on taking it in hand several well-marked differences become apparent. In the first place, the bill is not so long as in the Fantail Snipe, and is nearly as uniform in thickness as a skewer, not broadening at the tip conspicuously as in the Fantail. Then, the tail, which is distinctly shorter than in that species, consists of many more feathers, up to twenty-six in number, of which the centre ten only are broad and soft as in the Fantail, the outer pairs being narrow, stiff, and almost pinlike—whence the bird's name.

This number of feathers is not constantly present, but there are generally quite enough pin-feathers to identify the species ; to find them it is often necessary to pull aside the tail-coverts. Then, in the Pintail the first primary quill is brown throughout, without the conspicuous white outer border found in the Fantail ; and the lining of the wing is barred all over, without the clear white space usually so noticeable in the other species.

Although, as above stated, the Pintail Snipe bears a close general resemblance in colour to the Fantail, it is

more variable in pattern than that bird and may be barred all over underneath. Generally speaking, its marking tends to barring more than in the other species. It is also liable to the same form of pallid variation, fawn or cream-coloured specimens being not unfrequent, and Mr. Hume once obtained a dark specimen similar to the "Sabine's Snipe" form of the Common species. This bird, however, had the wing-lining and axillaries (the long feathers springing from the armpit) barred dark and white as in ordinary birds; whereas in the dark Common Snipe I mentioned above as having been submitted to me in Calcutta and in another dark "Sabine's Snipe" in the British Museum, these feathers were sooty throughout with no trace of marking.

I once procured in the Calcutta Market a very curious pied specimen of the Pintail Snipe, which had all the primary quills in one wing, and three in the other, white, with a white patch on the front of the neck, and the toes orange; in fact, it showed just about the same form of albinism as often occurs in the domestic Guinea-fowl.

The size of this species is about the same as that of the last, but the bill, wing, and tail are all rather shorter, the last by nearly half an inch.

The Pintail Snipe is a bird of more exclusively eastern distribution than the Fantail, not being found in Europe or Africa. Its breeding haunts are in Eastern Asia, from the river Yenesei to the Pacific, and it winters in our Indian Empire and the Malay Islands. In India it is rare to the north and west and commoner to the south and east, predominating in Southern India and especially in Burma, where it is *the* Snipe of the country. It arrives earlier and leaves later than the Fantail, and not unfrequently remains to breed in the plains, according to Mr. E. C. S. Baker (Journ. Bombay Nat. His. Soc. Vol. XII, p. 500) who has eggs from Guilang and Silchar in Cachar. The eggs appear much to resemble those of the Common Snipe,

and Mr. Baker speaks of some undoubted Snipe's eggs as doubtful whether belonging to that species or the present.

In its northern breeding haunts the Pintail indulges in a swooping love-flight like the Fantail, but the sound produced is different, as one would expect from the differently formed tail feathers, being compared to that made by a broken rocket; the vocal note of such times is "tiric," "tiric." The alarm note when the bird is flushed in its winter haunts is also slightly different. The bird is not so confined to muddy ground as is the Fantail, being, with its less sensitive bill, a far more general feeder, taking caterpillars, and other insects to a great extent, and not so many worms. It is also heavier and slower on the wing—so that each structural difference between these two very familiar species corresponds to a divergence in their respective habits.

The Jack Snipe.

Gallinago gallinula, BLANFORD, Faun. Brit. Ind.,
Birds. Vol. IV, p. 292.

NATIVE NAMES :—Uncertain, but probably those applied to the common Snipe with some qualifying adjective relating to this bird's small size.

The Jack is about as small as any Snipe known, and can by its diminutive size be at once distinguished from all our other species; moreover, the tail feathers, which are twelve in number, are noticeably pointed, although soft in texture like those of the Common Snipe. In colour the Jack bears a general resemblance to the latter bird, but has not the central buff streak on the crown and exhibits a gloss of green and purple on the back not found in any other Indian Snipe.

This species is about eight and a half inches long, with the wing about four and a quarter, the tail two, the shank

one, and the bill just over one and a half. The general form is more compact than in our other snipes, and the bill shorter and stouter proportionately.

It is a more northern bird than the Common Snipe, usually going north of the Arctic Circle to breed, all along the north of Europe and Asia. In winter it moves southward as far as North Africa and our Empire, but it is rare in Ceylon and Lower Burma, though it extends to China. It has on one occasion straggled to the Andamans, as I had the pleasure some years ago of identifying a specimen which had been shot near Aberdeen on the South Andaman on 25th November 1896, by Lieutenant H. Turner and kindly forwarded to the Indian Museum by Major F. Graham. It is usually most common in Northern India, but not so numerous as the Common and Pintail Snipes, except sometimes very late in the season; it may arrive as early as the end of August and stay till April. Its numbers probably fluctuate a good deal; taking the Calcutta Bazaar for example, Tickell found it rare there, while Mr. Hume says thousands were brought in. For myself, after watching this market for nine seasons, I found it not common, except one winter some years back, when it was certainly numerous although not in thousands or even hundreds.

The Jack differs somewhat in its habits from the other two common species; it is more solitary, and affects thicker cover, and is even more attached to particular spots. It does not like open mud-banks like the Fantail or dry ground like the Pintail, so that its choice is limited. It is, however, a fairly general feeder, eating worms, insects, shellfish and even a little vegetable matter, such as grass and its seeds. For the table it is the best of all our Snipes, and by no means to be treated, as it is by some shikaris, as unworthy of powder and shot because it is so small. Its flight is slow for a snipe, but particularly irregular and it

is apt to be missed if fired at too soon ; but as it does not go far and can be flushed again at close range, there is no excuse for the gentleman in the story who used to practise at one, day after day, till, much to his grief, he killed it by accident ! Birds of prey sometimes appear to find this little Snipe altogether too much for them, as Mr. W. Jesse recently saw one pursued by quite an assortment of raptorial birds, and yet evade the whole villainous combination, which included a pair of jugger falcons, two kites, a tawny eagle, and two ruffians unidentified.

On its breeding grounds in the North the Jack makes a most remarkable sound during its nuptial flight ; Woolley, who heard it in Lapland as the bird flew at a great height and speed, says : "I know not how better to describe the noise than by likening it to the cantering of a horse in the distance over a hard, hollow road ; it came in fours, with a similar cadence, and a like clear yet hollow sound. " The eggs resemble those of the Common Snipe in colour and shape, but are remarkably large for the size of their owner ; they are as long, though not as wide, as those of the bigger bird, and the clutch of four weigh nearly as much as their producer herself.

The Double Snipe.

Gallinago major, Brit. Mus. Cat.

Before leaving the true snipes it is as well to notice the fact that the Solitary Snipe of Europe, the "Double Snipe" of sportsmen at home, already indicated by Messrs. Hume and Oates in their respective works on Indian game-birds as a likely species to occur, has apparently really turned up, although the specimen was not preserved. This Double Snipe, although about the size of the big hill Snipe dealt with some pages back, is a bird of the type

of the Common or Fantail species, having, like that bird, all the tail-feathers broad and soft. The bill, however, differs from that of the Fantail, being narrower and much shorter proportionately, as also are the legs. In fact, although the bird is so noticeably larger than the Fantail, its bill is actually shorter than in that bird. This combination of characters, normal tail with small bill, will distinguish the European Solitary Snipe from any of our species, but there is also a very noticeable and distinctive colour-characteristic. This is, that in adult birds the four outer tail-feathers are all white except for a little black at the base; while even in the young, in which these feathers are barred with dark brown, the ground colour remains white, whereas in the Fantail it is, as everybody knows, chestnut. This Snipe is essentially a Western bird, breeding in the north of Europe and Asia as far east as the Yenesei, where it is more numerous than the Fantail Snipe. In winter it goes to Southern Europe and Africa. It is known to occur in Persia, and in the Journal of the Bombay Natural History Society (Vol. XII, p. 782) the occurrence of a specimen near Madras in September 1899, is recorded. Captain C. Donovan, I.M.S., procured the bird at Madras from a local shikari on the 5th of that month, and finding it had the characteristic broad and nearly white outer tail feathers of *Gallinago major*, considered that it belonged to that species. He sent the specimen to the Madras Museum and was told that the bird was a Wood-Snipe (*G. nemoricola*). The specimen was also thrown away as not worth preserving as it had become "high." It seems impossible that Captain Donovan, who is a member of the British Ornithologists' Union, had shot *G. nemoricola*, and carefully looked up the characters of the Snipes in several authors, could have been mistaken, and hence I conclude that we can claim the Double Snipe as a member of our Indian Fauna.

CHAPTER XII.

SANDPIPERS AND THEIR ALLIES.

The identification of the various Snippets and their allies (*Totaninæ*) is the hardest task which will be encountered by the student of our waders; but fortunately a good many can be sorted out easily enough.

The so-called *Painted Snipe*, by its beautifully-spotted quills and large eyes.

The *Curlew and Whimbrel*, by their rather large size and long bill curved strongly downwards. The Curlew is as big as a fowl.

The *Phalaropes*, by having the toes lobed. *i. e.*, edged with web all along.

The *Spoon-billed Stint*, by its spoon or paddle-shaped bill.

The *Godwits* (three species) are all largish birds, with very long bills with the upper chap distinctly the longer.

The *Sanderling* is known by having no hind-toe.

The *Terek Sandpiper* by its very long bill and short legs, the bill being twice as long as the shank from hock to toes.

The *Ruff and Reeve* by their short bill, this being much shorter than the shank from hock to toes.

Having eliminated all these, there remain a good many unmitigated "Snippets" with no striking peculiarity of form or proportion. These may be divided into two quite natural sections by the feet.

The *Typical Sandpipers, Redshanks, Greenshanks, &c.*, always have a web at the base of at least the two outer toes. There are eight of these.

The *Stints*, of which we have nine, have no web at all to the toes, like the Snipes.

I will go into the distinctions between these when I come to them in their turn.

The Painted Snipe.

Rostratula capensis, BLANFORD, Faun. Brit. Ind., Birds. Vol. IV, p. 293.

NATIVE NAMES :—*Ohari*, Nepaulese ; *Kone*, *Konechatta*, Kol in Singhboom ; *Tibud*, *Pantowa*, Mahratta at Ratnagiri ; *Mailulan*, Tamil ; *Raja Kaeswatuwa*, Cingalese ; *Baggarji*, Lower Bengal.

(I never heard this name used in the Calcutta Market, and once, when I asked what the Painted Snipe was called, I was told “yih Jack E-shnipe hai, Sahib !”)

The Painted Snipe, or “Painter,” as it is often called by sportsmen, is not really a snipe at all, as had long been suspected by field observers in India. It differs, indeed, from the true Snipes in form, colour, flight, note, and flavour, to say nothing of habits, and if naturalists had studied these and its anatomy as vigorously as they do skins, it would have been relegated to its proper place long ago. It is now proved to be an aberrant Sandpiper or Snippet. The bill alone will easily distinguish the “Painter” even on the table. It is not straight as, in the true Snipes, but gently curved towards the end, where also it is slightly broadened, but when dry does not show the pits conspicuous in the bills of most snipes ; nor is it “overshot” as snipes’ bills typically are. The eyes are very large, and not placed so far back as in the true snipe. The bird stands rather high on its legs, has a very short

square tail, and broad blunt wings; it is altogether a more strongly made, but less game-looking bird than the real Snipes. Its plumage is also very different; it is true the cream-coloured streak down the crown appears, and also the two on the back, but the colour of the quills and tail at once arrests attention, these feathers being French-grey delicately pencilled with black, and beautifully marked with large buff spots. This striking feature, and a white belly, are common to both sexes of the "Painter," but in other respects the male and female differ considerably, another point differentiating them not only from the true Snipes, but from most birds allied to them. In the male the head, neck, and breast are mottled drab, with a buff ring round the eye prolonged into a streak behind it; the upper plumage is an intricate mottling of olive green and white, with buff spots on the inner part of the wings and a buff streak down each side of the back. In the hen, which is quite the superior sex in these birds, the face, throat, and neck are dull but rich chestnut, passing into black before it meets the white belly; the eye-ring and streak are pure white instead of buff; the back and wing-coverts are far less variegated than in the male, being of a beautiful mossy, glossy green pencilled with black while to set this off is a splash of pure white on each side, caused by a tuft of long feathers of a pointed shape. Young hens resemble the cock, just as in birds in which the male is the more highly decorated, young cocks often resemble the hen. The eyes in the species are particularly expressive, the olive-brown iris contrasting with the pupil in quite a human way; the legs are usually of a livid bluish green, but the exact shade varies. The bill is olive-brown throughout in the cock, in the hen brown at the base, shading into flesh color at the tip. At least that is my experience, but some variation appears to occur in this point, according to Mr. Hume. The cock "Painter"

is about ten inches long, with the closed wing five inches, the bill and shank about one-and-three quarters each, and the tail about one and-a-half. The hen is decidedly larger, at any rate when fully adult. There has been some discussion as to a supposed change of plumage in the female of this species, which has been said to assume the plainer male plumage after the breeding season; but no such change took place in females kept in the Calcutta Zoological Garden, which I observed. This curious bird has a very wide range, although it is not migratory, for it is found in most parts of Africa and in Madagascar as well as in Southern Asia; its range, indeed, extends from Egypt to Japan. It is very generally distributed in our Empire, but is rare in the Himalayas. It moves about to some extent, its wanderings depending on the local water supply. The ground most to its liking is that which is moist rather than actually flooded, and it likes plenty of cover in the shape of rushes, etc. It feeds mostly on insects and snails, also eating paddy and grass-seed, and does not bore for its food like a snipe. Mr. Oates says that it cannot do so, on account of the curvature of its bill, but this does not prevent other birds with curved bills from boring. The "Painter" is more interesting to the naturalist than the sportsman; it has the fluttering straight-on-end flight of a Rail, and the same slovenly habit of letting its legs hang down when starting; it runs and skulks, and does not rise readily. My friend Mr. W. K. Dods tells me he once nearly nipped one between his knees as it rose, so close was it lying; but, as I told him, probably every "Painter" in his regular beats knows him, and knows too that he disdains its tribe as unworthy of his gun! Moreover, when the bird is brought to table, it is not nearly so good as a Snipe; its flesh is paler and its bones harder; while it has none of the genuine and

delicious Snipe flavour. To really understand this bird one must study it in confinement, and even then one feels that there is still much to be learnt about it. I have kept many and found them not very lovable pets. The words used by Palgrave to describe the camel's character will describe the "Painter" exactly, "never tame, but not wide-awake enough to be exactly wild." I once even reared a half-fledged young bird and got no further towards conciliating it than I did with adults. Yet these will let one pick them up with far less trouble than much tamer birds would give. In captivity can be studied with advantage, the curious display by which the species seeks to terrorize an enemy. When slightly alarmed, it raises the wing furthest from the intruder; if pressed, this wing is fully expanded, while in desperation the bird faces its adversary with both wings and tail spread so that their beautiful spotted markings are fully shown. Meanwhile a hissing or swearing note, like hot iron plunged into water, is given off. The similarity of this last attitude to that adopted by owls when on defence is, however, very striking, and I believe the Painted Snipe is at least as nocturnal as most owls, judging from the behaviour of captive specimens. Like owls, also, this bird has a singularly expressive countenance. When in its ordinary diurnal attitude crouched against the wall of its prison, with tail up and head down, so as to look as much as possible like a lump of mud, the head-feathers all lie flat, giving their owner a singularly stupid appearance. On the rare occasions, however, when one sees the bird walking about at ease, the feathers over the eyes are raised so as to be higher than the crown, which gives quite a wide-awake expression. In moving about thus, the head is carried high, and the bird looks tall and graceful, and moves its hind quarters up and down like some Sandpipers, but much more slowly. It will search

for food in water something like a Spoonbill, and can swim, but this latter is not an exceptional accomplishment, being common to waders generally. The spreading of the wings undoubtedly has a terrifying effect in some instances, as I have seen a Golden Plover frightened by it, as also a Bantam Hen; but some birds—a Rail, Ruff, and Pitta, did not seem alarmed at the Snipe's demonstrations. I was told, however, of a Squirrel which was seen to be scared thereby, when it came across one of these birds in one of the aviaries in the Calcutta Zoo, and I know of a case in a private aviary where a "Painter" escaped destruction when some other birds were killed by a rat. It seems, therefore, that this gesture is a protective one. At the same time I have no doubt that the natives who told Mr. Hume that the birds showed off to each other in this way in the breeding-season were quite correct in their statements, as I have more than once noted cases in which various birds used the same gestures to express anger or fear as they display in courtship. As the male "Painter" is the inferior sex, it would be interesting to know if he sits on the eggs, as the similarly degraded males of the Button-Quails do. The bird breeds, in one place or another, almost the whole year through; and in specially favourable localities, with a suitable water-supply, there seem to be two broods a year. The nest is usually a pad of grass, etc., on the ground, but it may be a mere depression, or raised up on the grass on which it is built. There are four eggs, smaller than those of the true snipes, of a more or less stone-colour, with large markings of dark brown, almost black. The chicks are clad in buff-coloured down with dark brown stripes, and will take to the water readily. The female "Painter" has the windpipe much longer than the male, and disposed in a loop, but I have not noticed the alleged difference in her note.

The Curlews, of which we have two, must not be confused with Ibises, as is often done, the latter belonging to the same section as the Storks, with helpless young and a large hind-toe.

The Curlew.

Numenius arquatu, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 252.

NATIVE NAMES :—*Goar, Goungh, Burra Gulinda*,
Hind.; *Chappa, Sada Kastachura*, Bengali.

The Curlew is about as big as a fowl, with long neck and legs, the feet webbed at the base of the toes and provided with a small useless hind-toe, and the bill very long and strongly curved downwards. The plumage is streaked and mottled with blackish brown and buff, the feathers having mostly light centres and dark edges; the belly is white. The bill is black, flesh-colour at the base of the lower jaw, and the legs grey.

The sexes are alike in colour, but hens run larger than cocks. The length is nearly two feet, of which the bill makes about six inches; the shank is about four-and-a-half inches long, and the closed wing about a foot.

The Curlew is a well-known bird over nearly all the Old World, breeding in the north, and migrating south in winter, when it commonly visits our Empire. I saw one pass over the Calcutta Zoological Garden (quite low so as to be unmistakeable) on July 20th, 1899, a curious date for one to be in the country.

The Whimbrel.

Numenius phaeopus, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 253.

NATIVE NAMES:—*Chota Goungh*, *Chota gulinda*,
Hind.

The Whimbrel is a small edition of the Curlew, but, in addition to its smaller size, differs in having the crown plain brown with a light band down the centre, whereas the Curlew has it uniformly streaked light and dark.

The length is not eighteen inches, with the bill a little over three, and the shank about an inch less; the closed wing measures nine-and-a-half. As in the larger species, the hens are the bigger birds.

The Whimbrel has much the same range as the Curlew, but extends to Australia, where the former is not found. It is usually rarer with us than the Curlew, and I can only remember seeing it once in the Calcutta Bazaar, where the Curlew was often brought every winter.

The Phalaropes are beautiful little swimming Snippets about as big as Larks; we have two of the three known kinds, but one is very rare.

The Red-necked Phalarope.

Phalaropus hyperboreus, BLANFORD, Faun. Brit.
Ind., Birds, Vol. IV, p. 281.

This little fairy sea-bird, which has a straight slender bill of moderate length and toes fringed with skin something like a Coot's, is white on the forehead, face and all underparts and mostly blackish brown above. This is the winter plumage, in which it visits us; in summer, it is

darker and greyer, with a chestnut neck. Hens are the brightest, the bill is blackish, and the legs lavender blue.

The length is seven-and-a-half inches with the bill nearly an inch, shank a little less, and closed wing rather over four.

This bird breeds in the north of both Hemispheres, going south in winter, at which time it is almost entirely in its haunts. It is found on the west coast of India, and on the eastern one as far as Madras, being very common on the coast. I have seen numbers of what must have been this species of Phalarope between Bombay and Aden, far out of sight of land, but, as is usually the case under these circumstances, they were very shy.

The Grey Phalarope.

Phalaropus fulicarius, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 282.

This bird is larger than the last, with a distinctly flat bill; in winter it is much greyer, looking indeed very like a miniature gull. In summer it is chestnut below, with the bill yellow. In winter the bill is dark olive, much like the legs. The wing measures at least five inches and is longer in hens, which are larger than cocks. The Grey Phalarope is a bird of the high north, breeding all round the pole, yet ranging in winter even to New Zealand. The only known Indian specimen was got in the Calcutta Bazaar by Blyth on the 11th May 1846. The specimen was still in the Indian Museum in my time, but I never saw this or the other species in the bazaar, though always on the look-out.

The Spoon-billed Stint.

Eurynorhynchus pygmaeus, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 271.

Only about the size of a sparrow, the Spoon-billed Stint is at once known by its very remarkably shaped beak which is of moderate length and suddenly broadened out at the end into a sort of diamond shape. It is drab above with darker streaks, and white below, with black legs and bill. This is the winter plumage, which it wears when with us; in summer the upper parts have the light portions chestnut. Very little is known about this curious bird, which does not seem to be much the better off for its elaborate bill, being rare everywhere; in summer it is found in Eastern Siberia, and in winter it visits Bengal and Burma as well as China. Only a few specimens have been obtained, and these in company with other "Snippets."

The Black-tailed Godwit.

Limosa belgica, BLANFORD, Faun. Brit. Ind., Birds, Vol. V, p. 254.

NATIVE NAMES :—*Gudera*, *Gairiya*, *Jāngral*, *Khág*, Hind.; *Malgujha*, Nepalese; *Jaurali*, Bengali; *Tondu ulanka*, Telugu.

This bird has a very long bill, slightly inclined upwards, overshot, with the upper chap slightly knobbed at the tip; the legs and neck are also long. The drab of the plumage is uniform and unstreaked, and the tail is white at the root and black at the tip; in summer the plumage becomes reddish. The bill is pink at the base and indeed to near the tip, which is black; the legs are also dark.

This bird varies enormously in size, some being over a foot and a half long, and looking as nearly as big as Curlews; the hens are the biggest as a rule. The closed wing ranges from seven and a half to over nine inches, and the bill from barely three to nearly five, while there may be a difference of over an inch in the length of the shank.

This is common bird in India in winter, and to a great extent a grain-eater; it is often in large flocks, and is splendid eating, even better than a Snipe, according to Hume. It is therefore well worthy the attention of sportsmen. In summer it is found all across the Old World. Dr. Blanford states that it is commonly sold in the Calcutta Bazaar as Woodcock, but this name was never given it in my time.

The Bar-tailed Godwit.

Limosa lapponica, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 256.

This is very similar in general style to the last bird, but is not so large as a rule, the bill measuring three inches and the wing eight in males, though hens are larger; the plumage, moreover, will distinguish it at once, being dark-streaked on the drab portions, with the tail transversely barred white and brown; in summer it is largely reddish, as in the other species.

This is an uncommon bird with us, having only been found in Kurrachee Harbour so far; it is a western species, breeding in Europe and North-West Asia, and going south in winter. At Kurrachee it is common. This bird has a nearly white rump, but there is a dark-rumped kind, which may be distinct, found further east, of which a specimen has been got at Singapore. The Bar-tailed Godwit is a coast bird, and Mr. Hume found it to be poor eating.

The Snipe-billed Godwit.

Macrorhamphus semipalmatus, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 257.

This bird combines the bill of a Snipe, broadened at the end, straight and sensitive, with the plumage of a Godwit, drab in winter (with whitish edges to the feathers, and dark streaks on the head and neck) and chiefly chestnut in summer; the bill is black, lead-coloured at the base, and the feet dark grey.

The length is rather over a foot, with the closed wing seven inches, the bill about three, and the shank two.

This is a rare bird, breeding in some unknown locality in Siberia: few specimens have been got anywhere, but some of these have occurred in our Empire, always of course in the winter. These have turned up both in India and Burma, four even in the Calcutta Bazaar, where, however, I never met with it myself.

The Sanderling.

Calidris arenaria, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 270.

The Sanderling has a straight bill and no hind toe, and no webs between the base of the front ones. The drab of its plumage is peculiarly light, the underparts white to the chin, and the bill and feet black. In summer it is darker, with some admixture of reddish. The length is seven-and-a-half inches, the wing nearly five, the shank and bill about one each.

This birds breeds in the Arctic regions, but out of the breeding season is found nearly all over the world; with

us it is common only on the Sind and Baluchistan coasts. but may occur casually elsewhere, always on the coast. This bird is practically simply a three-toed Stint.

The Terek Sandpiper.

Terekia cinerea, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 258.

In this quaint-looking bird the bill, which is slightly inclined upwards, is about twice as long as the shank, which is rather short. This curiously disproportionate bill at once distinguishes the bird, which has nothing remarkable about its drab plumage, but is noteworthy among the small Sandpipers for its bright orange feet.

The bill is black, orange at the root. In summer the plumage is streaked with black above. The length is nine-and-a-half inches, but the bill takes up about two, and the wing is only five, and the shank about one. The Terek Sandpiper breeds in North-Eastern Europe and Northern Siberia, going south in winter, when it is found all over the Empire, but not generally distributed. I saw it in the Calcutta Market pretty regularly, but only in small numbers.

The Ruff and Reeve.

Pavoncella pugnax, BLANFORD, Faun. Ind., Birds, Vol. IV, p. 268.

NATIVE NAME :—*Geh-wala*, Hind.

The Ruff is much larger than his female, the Reeve, but both are easily distinguishable from other Sandpipers by having the bill, which is straight and blunt, very decidedly shorter than the shank. The drab upper parts are margined with a lighter shade, and the young have a buff tinge

throughout. Many birds, generally males, have white necks and sometimes white heads too. In summer the male has a ruff of long plumes. The bill is black, orange or salmon at the root or almost altogether in some old birds, the feet orange or salmon in old birds, olive-green or grey in young ones. The male is a foot long, with a wing over seven inches, the shank nearly two, and the bill one-and-a-half; the Reeve is only ten inches long, with a six-inch wing; she stands a head shorter than the male. The plain brown tail will distinguish both sexes from other Sandpipers of similar size. The Ruff and Reeve are some of the most interesting small waders; the males are much fewer than the females, and fight much for the possession of these in the breeding season, being polygamous. The ruff of plumes they have at this time varies much in colour, showing all manner of combinations of black and white, black and chestnut, etc. The back varies to correspond, and birds showing this may be found even in India. Birds with white necks have white ruffs in the breeding-season, and look very handsome. The Reeves become much darker at this time, but do not vary like the Ruffs.

This species breeds all along Europe and Asia, but does not go very far north; in winter it goes south, but not much east of India, being usually rare in Burma and Southern India. In Northern India it is common. It is largely a grain-eater, gregarious in its habits, although so quarrelsome, and is nearly as good to eat as a Snipe.

The Greenshank.

Totanus glottis, BLANFORD, Faun. Brit. Ind.,
Birds, Vol IV, p. 266.

NATIVE NAMES:—*Tantanna*, *Tintimma*, Hind. ;
Gotra, Bengali; *Periakotan*, Tamil; *Mahaoliya*,
Cingalese.

This, like the Godwits, is a good sized bird, about as big in body as a pigeon; it is also long in the bill, neck and leg, but the bill is shorter than in the Godwits, not over-shot, nor enlarged at the tip, but tapering. It is a most graceful bird, and prettily coloured, the drab upper parts of the plumage having a decided grey cast, and the head and neck streaked with black and white. In summer there are black streaks on the back. The bill is French-grey with a black tip, and the legs are yellowish green; this distinguishes the bird from any other large Sand-piper.

The whole length is fourteen inches, the wing seven-and-a-half, and the shank and bill each two-and-a-half.

This is a common winter bird in India, and very good eating: in summer it breeds in Northern Europe and Asia, visiting Southern Asia generally, and even Australia in the winter.

Armstrong's Greenshank.

Totanus guttifer, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 276.

This bird much resembles the Greenshank, but is altogether smaller, the wing only measuring seven inches and the shank less than two; the bill, however, is almost as long as in the former, thus being longer than the shank. The bill is yellow at the base, and the legs dull yellow.

This is a rare and little known species, breeding in North-Eastern Asia ; in winter it comes to us, and has been got near Rangoon, in the Calcutta market, and outside our limits in Hainan. The different proportions and colour of the bill and legs will at once distinguish it from a common Greenshank.

The Redshank.

Totanus calidris, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 264.

NATIVE NAMES :—*Chota batán*, Hindi ; *Malikotan*, Tamil ; *Maha watuwa*, Cingalese.

The Redshank is about as big in body as a small Dove, and has a straight bill ; its drab upper plumage is mottled somewhat and the secondary quills are white, making a large white patch on each wing, when these are opened ; this patch at once distinguishes it ; young birds are redder in colour. The legs are orange red, and the black bill reddish at the root.

The length is eleven inches, with the wing a little over six, and the bill and shank each about two inches.

The Redshank is a common winter bird in India, and breeds in Europe and Central Asia, going to the southward in winter.

The Spotted Redshank.

Totanus fuscus, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 265.

NATIVE NAMES :—*Batán*, *Gatni*, *Súrma*, Hind. : *Yerra kal ulanka*, Telugu .

This is a larger bird than the common Redshank and more mottled ; moreover, there is not a clear white patch

on the wing, the secondaries being barred with brown; otherwise in winter the two are much alike, with the same red legs. It may, however, be seen in India in summer plumage, and then is very different, being mostly of a sooty slate colour, with dark red legs. It is over a foot long, with a wing of six-and-three quarter inches.

It is a more northern bird than the common Redshank, breeding north of the Arctic Circle all along the Old World, and not going so far south in winter; with us it is rare in Southern India, Ceylon and Burma, though a common winter visitor in Northern India.

The remaining true Sandpipers are best distinguished by peculiarities of plumage.

The Wood Sandpiper or Spotted Sandpiper.

Totanus glareola, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 261.

NATIVE NAMES :—*Chupka*, *Chobaha*, *Tútware*, Hind. ; *Chinna ulanka*, Telugu.

This is a well-proportioned little bird, with nothing remarkable about its shape, but with its dark brown upper plumage conspicuously spotted with white, which at once distinguishes it. Its bill and legs are greenish, the former black at the tip. I once got a semi-albino in the Calcutta Market, with the plumage very pale, but the bill, eyes and legs normal. This is now in the Indian Museum, or was when I left Calcutta. The length is eight-and-a-half inches, with wing nearly five, shank, one-and-a-half, and bill rather less.

The Spotted Sandpiper breeds in the north of the Old World, and goes south in winter, even to Australia.

It is our commonest "Snippet" and is a nasty little thing to eat, having a penetrating musky flavour which one can taste for a whole day after eating it.

The Common Sandpiper.

Totanus hypoleucus, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 260.

NATIVE NAMES :—*Potti ulanka*, Telugu ; *Kotan*,
Tamil of Ceylon.

This graceful little bird much resembles the last in general form, but is glossy olive-brown without white spots, with a drab bill and green legs. It is eight inches long, with a wing rather over four, shank nearly one, and bill a little longer.

This, although not the commonest Snippet with us, is yet abundant enough in the winter, especially in the Andamans. It is the only Sandpiper breeding with us, its eggs, buff with blackish markings and nearly an inch-and-a-half long, having been taken in Cashmere in May and June. It is found nearly all over the Old World, according to season. It wags its tail like a Wagtail.

The Green Sandpiper.

Totanus ochropus, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 262.

NATIVE NAME :—*Nella ulanka*, Telugu.

This absurdly named bird is olive-brown like the last species, with light spots in summer ; it is considerably bigger than the last two, and easily distinguished by its upper tail-coverts and the root of the tail being pure white contrasting with the rest of the plumage ; the rest of the

tail is also pure white, but with very bold dark bars. The bill and legs are dull green. The length is nine-and-a-half inches, the wing nearly six, the bill one-and-a-half, and the shank a little less.

This species is found over the Old World generally, except Australia, breeding in the north and in winter visiting our Empire commonly, but especially Northern India. It is a solitary bird, and wags its tail like the last species. As it often arrives in July and does not leave till May, it is pretty constantly to be seen in the country.

The Little Greenshank.

Totanus stagnatilis, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 263.

NATIVE NAME :—*Chota gotra*, Bengali.

This is a beautiful miniature of the large Greenshank, having the same slender form and clear light drab-grey plumage ; in summer it gets browner and darker. The bill is dark, greenish at the root, and the legs bluish green. The length is ten inches, the wing five-and-a-half, the shank two, and the bill a little less. This species, somewhat absurdly called the Marsh Sandpiper in books, breeds in a rather southern zone, from South-East France to South Siberia. In winter it ranges south even to Australia. It is not very generally distributed with us, but very common in Ceylon, and I have seen it in the Calcutta Market.

The Knot.

Tringa canutus, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 278.

The Knot is a rather short-legged, thick-set bird, with a comparatively short bill, blunt and straight. There are no webs at the base of the toes, which point distinguishes it from the other large Sandpipers, except the next species. The plumage, drab above, and white below, shows nothing remarkable; the upper tail-coverts are white barred with black. In summer it becomes largely brick-red. The bill is black and the feet greenish. The length is nine inches, with the wing six. bill and shank each rather over the inch.

The Knot, which breeds in the high northern regions of the Old World, and performs enormous migrations, reaching even South Africa, Australia and Brazil in winter, was supposed by Dr. Blanford, not to occur in India, but to have been confused with the next species by Jerdon and Blyth, who recorded it from Madras and Calcutta. The only Knot I ever saw in India, however, was one I got in the Calcutta Bazaar on January 16th, 1902, which undoubtedly belonged to this species, so no doubt the old authorities were right, and the Knot does sometimes visit us, though not commonly.

The Eastern Knot.

Tringa crassirostris, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 277.

This is a larger bird than the last, but otherwise generally resembles it in winter; in summer it is not nearly so red, having none of this colour below, but many dark spots. The upper tail-coverts are all white. It is nearly a foot

long, with a wing of seven-and-a-quarter inches, shank about one-and-a-half, and bill nearly two.

The Eastern Knot summers in Siberia and winters in South-East Asia, and eastwards to Australia. With us, it is a winter visitor, and has occurred from Baluchistan to Rangoon and the South Andaman.

The Asiatic Pectoral Stint.

Tringa acuminata, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 276.

There is nothing distinctive about the bill of this bird, which is slender and straight, but the tail feathers are conspicuously pointed, especially the middle ones.

It has dark streaks on the drab upper surface, and in summer becomes nearly black above; the bill is black, and the feet yellow-ochre. Young birds are blackish above and buff below. The length is eight-and-a-half inches, with the wing about five-and-a-half, shank and bill a little over one.

This bird really belongs east of us, breeding in North-East Siberia and even Alaska, and going down in winter even to New Zealand. Yet the one specimen obtained in the Empire was shot in Gilgit in August.

The Dunlin.

Tringa alpina, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 279.

The Dunlin has the bill longer than the shank, and slightly bent down. It has the usual drab plumage, with indistinct darker streaks, and dark upper tail-coverts; the bill and legs are black. In summer it is reddish above, and has a black patch on the breast. Its length is seven-

and-a-half inches, with a wing of four-and-a-half, shank nearly one, and bill considerably over one.

The Dunlin breeds in the northern parts of the Old World, going south in winter, but not very far nor very far east; thus it is common in Northern India, but unknown in Southern India and Burma. At home it is chiefly a coast bird, but in India also found commonly inland. It goes in flocks.

The Curlew Stint.

Tringa subarquata, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 278.

This bird much resembles the Dunlin, but it is bigger, with a proportionately longer bill, more decidedly curved downwards; moreover, the upper tail-coverts are mostly white; in summer it is reddish below as well as above, with no black breast patch. Young birds are buff below.

The length is eight-and-a-half inches, with the wing five, shank a little over one, and bill one-and-a-half.

This bird, sometimes called the Pigmy Curlew, breeds in the high north, and goes further south than the Dunlin, reaching even Australia. It is found early in India, and extends to Burma also. It is gregarious, like the Dunlin, but not so common.

The Broad-billed Stint.

Tringa platyrhyncha, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 279.

This has a broadish flat beak, slightly turned down at the point only; the plumage is rather dark brown with dis-

tinged white eye-stripes ; in summer it becomes even darker. The bill is brown and the legs brown with an olive tinge.

The length is seven inches and the wing four, the shank barely an inch, and the bill decidedly over this.

This bird breeds in the north of the Old World, going south in winter, but is not as a rule very common with us. I only once found it in the Calcutta Market, when a few were brought in early in the cold weather in 1902.

The Little Stint.

Tringa minuta, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 273.

NATIVE NAMES :—*Chota pan-loha*, Hind. I have heard these little Stints called *Birbirri* by a Calcutta market-man, this being the only name I have come across myself.

This bird has the upper plumage drab with dark streaks, getting darker and redder in summer ; the bill is black and the legs grey. The length is six inches, the wing not quite four, the shank about three-fourths of an inch, the bill rather less.

This miniature Sandpiper ranges all across the Old World, breeding in the north and going south in winter, where it is very common in India and Ceylon, but not Burma.

The Eastern Little Stint.

Tringa ruficollis, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 274.

This is like the last, but bigger and with black legs. In summer it is reddish on the throat and breast.

The length is six-and-a-quarter inches, with the wing four; the shank is no longer than in the last, but the bill slightly exceeds it.

This is an eastern bird, breeding in East Siberia, and penetrating in winter to Australia. It is a common species in winter in Burma and the Andamans.

The Long-toed Stint.

Tringa subminuta, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 275.

The Long-toed Stint, as its name implies, has unusually long toes, the middle one exceeding the shank in length, which is not the case in the previous two. The plumage is dark brown with lighter edges, with some reddish in summer above, and the legs are pale brownish or yellowish, the bill being darker.

The length is six inches, the wing under four, the shank about three-quarters of an inch, and the bill a little less.

This has much the same range as the last, but extends with us to Bengal and Ceylon. It particularly affects soft muddy ground, for which its long toes fit it especially.

Temminck's Stint or the White-tailed Stint.

Tringa temmincki, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 276.

Temminck's Stint is also a long-toed species, but is easily distinguished from the last and the other two little Stints by having the upper plumage nearly uniform drab with very faint streaking, and the tail nearly all white except the centre feathers. The bill is black, and the legs olive-

green. In summer it is darker above. It is six inches long, with the wing under four, and the bill and shank, which are equal in length, less than three-fourths of an inch.

It breeds in the high northern regions of the Eastern Hemisphere, and does not go very far south or east in winter, visiting at that season Northern Africa and India, where it is common; it is rarer in Southern India and in Burma, and quite rare in Ceylon.

CHAPTER XIII.

THE TRUE PLOVERS.

ALTHOUGH the Indian birds referable to the Plover sub-family of *Charadriidæ* number a score, they are far from being as confusing as the Sandpiper group, and are, indeed, rather easy to distinguish than otherwise. Plovers, with the exception of the Turnstone, have bills much like a Pigeon's; large eyes and heads, and legs rather long; the two outer toes at all events are webbed at the base.

First, however, the Turnstone, which differs from all the rest in some points, may be set aside and described.

The Turnstone.

Streptilas interpres, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 223.

The Turnstone is a thick-set little bird with a beak of medium length and quite straight above, not bulged towards the tip like a Plover's or a Pigeon's; the legs are short, not being longer in proportion than a Pigeon's, and there is no web at all between the front toes; the wings are long and pointed.

The plumage in winter is dark brown above with a slight mottling of lighter, with the throat, rump, belly, and root of tail white. The bill is black, the eyes brown, and the feet bright orange. In summer the head is largely white, and the neck has much black, and the back has a sort of "tortoise-shell" marking of black and chestnut.

The length is eight-and-a-half inches, with the closed wing six, and the bill and shank an inch each.

The Turnstone, which seems to be a sort of link between Plovers and Sandpipers, is about the most cosmopolitan bird in existence—that is to say, out of the breeding-season, for it only breeds in the high north. It is a rather casual visitant to our coasts, but I have seen it in the Calcutta Market occasionally, and it is common on the islands of the Indian seas and on the Sind coast.

The ordinary Plovers fall into three naturally-distinguishable groups :—

The *Lapwings*, all as big as a dove or bigger, with self-coloured backs and broad blunt wings ; there are eight of these.

The *Golden Plover and its allies* (three species), with spotted backs and sharp wings, about the size of a dove.

The *Sand-Plovers*, all smaller—generally very much so—than doves, with plain backs and sharp wings ; there are eight of these.

The Lapwings are inland birds with a heavy flapping flight ; one of them, the first I shall notice, is the commonest Indian bird in the family.

The Common Indian Lapwing or “Did-he-do-it.”

Sarcogrammus indicus, BLANFORD, Faun. Brit. Ind., Birds. Vol. IV, p. 224.

NATIVE NAMES :—*Titiri*, *Titai*, *Titi*, *Tituri*, Hind. ; *Titavi*, Mahratta ; *Yennapa Chitarwa*, Telugu ; *Al-kati*, Tamil ; *Kiralla*, *Kibulla*, Cingalese.

This Lapwing is about as big as a Pigeon in the body, but stands high on its legs ; it has a small hind-toe, and a

flap or wattle of skin, directed upwards and forwards, in front of the eye. The upper plumage is light bronze-brown with the head and breast black, a broad white band running from each eye down the neck till it merges in the white of the lower breast and belly. The pinion-quills are black, and there is a white bar on the secondaries; the tail is black at the tip and white at the root. Young birds have brown heads and white throats.

The bill has a black tip, but is elsewhere cherry-red, like the wattle and eyelids; the eyes are reddish-brown, and the legs bright yellow.

The length is thirteen inches, with the wing nine, shank three, and bill half that length.

This strikingly-coloured bird, whose curious almost articulate cry has given it its Anglo-Indian name, ranges all over the plains of India and Ceylon and extends westwards to Southern Persia and Arabia. It does not go far up the hills, but is found in Kashmir. It is a resident, and breeds between March and August, the eggs measuring more than an inch and a half long, and being marked with brown spots on a yellowish ground. It should be protected as a useful insect-destroyer.

The Burmese Red-wattled Lapwing.

Sarcogrammus atrinuchalis, BLANFORD, Faun.
Brit. Ind., Birds, Vol. IV, p. 226.

NATIVE NAME :—*Titidú*, Burmese.

This is the Burmese representative of the last species, and closely agrees with it in habits, size, and colour, except that the neck is black all round, the white eye-band not extending beyond the head; there is also a white bar between the black neck and brown back.

Outside Burma it extends to Manipur, Cochin China and Sumatra.

The European Lapwing or Peewit.

Vanellus vulgaris, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 230.

The Peewit has a long slender crest, no wing-spur and a small hind-toe. Its plumage is bronze-green above, black on the crown and breast, and white on the belly, and at the root of the tail, of which the tip is black. The pinion-quills are black with a white patch near the tip, and there is a buff patch under the tail, and at its base above, formed by the tail-coverts.

The plumage is more or less edged with buff above in winter, and the face and neck white ; in summer the face and throat are black, and the buff marks disappear. The bill is black, the eyes dark, and the legs dull pinkish red.

The length is a foot, with the wing nearly nine inches, the shank two, and the bill rather over one.

This well-known European and Asiatic bird visits our Empire among other southern countries in winter, chiefly North-West India.

The Spur-winged Lapwing.

Hoplopterus ventralis, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 229.

This Lapwing, as its name implies, has a well-developed spur on the bend of the wing, but no hind-toe ; no wattle, but a long crest. The legs are long. Its upper plumage is light brown and the lower white, as also a large bar on the wing and the root of the tail ; the crown, face, throat, pinion-quills, tip of the tail and a patch on the belly are black, as are also the bill and feet ; the eyes are dark brown.

The length is a foot, with the wing nearly eight inches, the shank just over two-and-a-half, and the bill rather under one-and-a-half.

This chastely-coloured bird extends from the countries drained by the Ganges eastwards through Burma to Siam and South China ; it is not found on the Indus river-system, nor south of the Godavery ; it is solitary or goes in pairs, and haunts the beds of large rivers. It breeds in Northern India, early, in March or the beginning of April, and the eggs are much like those of the common "Did-he-do-it," but smaller ; the cry is said also to be similar.

The Yellow-wattled Lapwing.

Sarciophorus malabaricus, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 226.

NATIVE NAMES :—*Zirdi*, Hind. ; *Jithiri*, in North-West Provinces ; *Chitawa*, Telugu ; *Al-kati*, Tamil.

The Yellow-wattled Lapwing has a large wattle in front of the eye, hanging downwards ; it has a short crest, but no wing-spur and no hind-toe. The legs are long. The plumage is coloured light brown, black and white in much the same way as that of the last species, but there is much less black on the throat, and a white line running round the back of the head from eye to eye. Young birds have light bars above, and no black on the head.

The bill and wattle are yellow, except for the black tip of the former ; the eyes silver-grey or yellow, and the legs yellow.

The length is ten-and-a-half inches, the wing eight, the shank two-and-a-half, and the bill one.

This is a purely Indian bird, and is found nearly all over India and Ceylon, but not in Upper Sind or the

Western Punjab. It haunts dry plains, and breeds in April and May in the North, and in June and July in the South ; the eggs being about an inch-and-a-half long, and buff with dark brown and purplish-grey markings.

The remaining three Indian Lapwings are all devoid of crest and wing-spurs, but have small hind-toes ; they also have the pinion-quills black and the secondaries all white, thus showing a great deal of white in the wing.

The Grey-headed Lapwing.

Microsarcops cinereus, BLANFORD, Faun. Brit. Ind., Birds. Vol. IV, p. 228..

The grey-headed Lapwing is much the largest of our true Plovers, being a thick-set bird as big as the Common Crow. It is light brown above, with the head grey and the wings black and white as above noted ; the tail is also white with a black tip, and the belly white, separated from the breast by a blackish band. There is a small wattle before the eye and a small hind-toe.

Young birds have no black on the breast and have brown heads.

The bill, except for its black tip, the wattles, eyelids, and legs are yellow ; the eyes red.

The length is nearly fifteen inches, with the wing nine and half, shank three, and bill about half this.

This, the largest of the Indian true Plovers, is an East Asiatic bird, breeding from Mongolia to Japan, and wintering from Bengal to Burma. It has also occurred in the Andamans, and was reported by Colonel Irby from Oudh. It has been suggested that he mistook the next species for it, but from the description which will be given of this it seems hardly likely. The Grey-headed Lapwing looks promising for the table on account of its

size, and one I tried was excellent, but the next was very inferior. A few were occasionally brought into the Calcutta Market in my time.

The White-tailed Lapwing.

Chettusia leucura, BLANFORD, Faun. Brit. Ind.,
Birds, Vol., IV, p. 233.

NATIVE NAMES :—*Chizi*, Cabul; *Chiric*, Afghanistan.

This is a long-legged species of very beautiful colouration. The upper parts are brown with a beautiful lilac gloss on back and wings; the tail is pure white like the secondary quills, the throat and vent white, and the belly a lovely salmon-colour. In young birds there is no pink gloss on the back.

The bill is black, the eyes brown-red, and the legs yellow, the eyelids red-edged. The length is eleven inches, the wing seven, the shank three, and the bill a little less than half this.

The migrations of this bird are rather east and west, than north and south like those of most species, its breeding haunts being Persia and Turkestan and its winter quarters North-East Africa and Northern India. It is common in the Punjab, and occurs eastward also, having been recorded from Calcutta, where, however, I can only remember obtaining one specimen in the market

The Sociable Lapwing.

Chettusia gregaria, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV., p. 231.

The young plumage of this bird, which is that most commonly found in India, is brown above, and white

below the breast, the wings and tail black and white, the crown mixed black and brown with a buff band running all round it. The brown upper parts have buff edgings to the feathers.

Old birds are different and very handsome; they have the cap black with the surrounding coronet pure white and a black streak below it. There are buff margins on the back, and the belly is black edged behind with chestnut; the vent is white.

The bill and legs are black and the eyes dark.

The length is thirteen inches, with the wing eight, the shank about two-and-a-half, and the bill half of that.

This Lapwing breeds in Eastern Europe and Central Asia, wintering to the southward: in our limits it is common in the Punjab, and is found as far east as Oudh, and south to Ratnagiri. It is a gregarious species.

The rest of the Plovers have sharp wings and particularly large heads and eyes, which latter are always dark; they have a sharp, swift, decided flight. None have the hind-toe except the Grey Plover, which, with the two Golden Plovers, form a group distinguished by their speckled backs.

The Eastern Golden Plover.

Charadrius fulvus, BLANFORD, Faun. Brit. Ind.,
Birds, Vol IV., p. 234.

NATIVE NAMES:—*Chota battan*, Hind.; *Kotan*,
Tamils of Ceylon; *Rana waturwa*, *Oliya*,
Maha oliya, Cingalese.

In this bird the upper parts are speckled yellow and black, the underparts white; the wing-lining drab. In

summer the underparts are black divided from the speckled upper plumage by a white band. The bill and feet are black.

The length is rather over nine inches, the wing six-and-a-half, the shank about one-and-three-quarters and the bill just over one.

This beautiful and sporting bird has a curious distribution ; in the Old World it is an eastern bird, not breeding west of the Yanesei, nor usually wintering west of India, while it extends down to Australia : and at the same time it is a characteristic American species, found according to season throughout the New World. American specimens run larger, as is often the case with birds found in both worlds, but the best authorities do not now consider them distinct, although they are once separated under the name *C. dominicus*. It is found all over our Empire in open swampy places, always in flocks, and feeds on worms and insects. It probably eats small fruit as well, as I found in captivity it would feed on Tipari berries. In this state it is very quarrelsome. The note is a pretty two-syllabled whistle. The bird is of course well-known to sportsmen, and is very good eating. My friend, Mr. W. K. Dods, tells me he has found the flocks resting on water-lily leaves in jheels, and a similar observation has been recorded by another well-known shikari, though the habit seems to have otherwise escaped notice. The birds stay here till in full breeding-colour, and Jerdon says they breed in India, but this has not yet been corroborated. The eggs are stone-coloured with much heavy blackish marking, and are of large size for the bird, measuring nearly two inches in length.

The European Golden Plover.

Charadrius pluvialis, BLANFORD, Faun. Brit. Ind., Birds Vol. IV. p. 235.

The Golden Plover of Europe closely resembles the Indian bird, but is stouter and lower on the legs and usually larger, the wing being three-quarters of an inch longer, while the shank is barely as long as the other's. The most reliable and obvious distinction, however, is that the present bird has the wing-lining white instead of drab.

This is a western bird, not being normally found east of Western Asia, but just as stragglers of the Asiatic species turn up in Europe, so do a few of the European ones visit India in winter, and specimens have been obtained from points as far apart as Gwadar and Lucknow. Any sportsman who goes in much for Golden Plover may therefore have a chance of coming across this species, so easily passed over but also so unmistakable. Its note is even sweeter than that of the Indian bird, and is oftener uttered.

The Grey Plover.

Squatarola helvetica, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 236.

NATIVE NAME :—*Burra batan*, Hind.

This species, which ought to have been called the Silver Plover and not given a different generic name in its scientific appellation, is a very close ally of the last two, but it is a considerably bigger bird with an especially large bill and has a hind-toe, though a very small one.

The axillaries—a tuft of feathers springing from the armpit—are also black in this species, conspicuously contrast-

legs are olive-brown in winter, and I am sure I have seen some in the Calcutta Bazaar with flesh-coloured legs.

The length is only six-and-a-half inches, with the wing four-and-a-half, shank one, and bill just over the half-inch.

The Little Ringed Plover has a wide distribution, being found over Europe, North Africa and Asia, including all our Empire. With us it haunts the beds of rivers, &c., in small flocks. It has a whistling cry of one note. Many appear only to visit us as winter migrants, but it also breeds numerously in India, at any rate in the Deccan, where the breeding-time is from December to May. The eggs are thinly spotted, and, though the bird is so small, measure over an inch long.

The Common European Ring-Plover.

Egialitis hiaticula, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 243.

This, the "Ring-dotterel" familiar on our coasts at home, is a larger, stouter, and more brightly-coloured edition of the little Indian bird. It does not exceed the latter in the length of legs and bill, but has the wing over five inches, and is about an inch longer altogether. The legs and base of the bill are of a brighter yellow orange, in fact, and there is more of this colour on the former.

The plumage is much like that of the smaller bird, but differs in a few small details; notably the shafts of the primary quills are brown at the base and white for the most of the rest of their length, their shafts being all brown in the small species; moreover, the inner primaries have a streak of white on the web, which is all brown in the latter; there is also more white on the secondaries and outer tail-feathers.

ing with the white wing-lining. In the other two species, these plumes match the wing-lining in colour.

In its general plumage and in the changes it undergoes with the seasons, this species resembles the Golden Plovers, but adult birds have the light mottlings of the upper plumage white, although in the young they are pale yellow. The bird is a foot long, with an eight-inch wing, the shank nearly two inches, and the bill nearly one-and-a-half.

It breeds in the high north, but is found almost everywhere in winter, usually on the sea-coast, though much less abundant in India than the Eastern Golden Plover; in the Calcutta Market it was scarce by comparison.

The rest of the sharp-winged or typical Plovers are all sand-birds, with light brown backs and white bellies, a colouration adapted to conceal them in their native haunts; there are eight of them, some being, however, very rare in India.

The Little Ring Plover.

Argialitis dubia, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 241.

NATIVE NAMES:—*Zirrea*, Hind.; *Bytu ulanka*,
Rewa, Telugu.

This pretty little creature, only about as big as a Lark, is the most widely-distributed of all the sharp-winged or true Plovers found in India. The head is boldly marked with black and white, the throat is white, this colour also forming a collar round the neck, and under this white collar is a black one.

Young birds have the head marking buff and brown instead of black and white.

The bill is yellow at the root and black elsewhere, the eyelids and legs yellow; but Mr. Oates has stated that the

The European Ring-Plover has a very wide range, all over Europe and Africa, according to season, and invades even Greenland and Eastern North America; but in Asia it does not extend east of Dauria, and only appears in India as a casual visitant, two specimens only having been obtained at Gilgit and Sultanpur, and then only in 1879 and 1878.

The Long-Billed Ring-Plover.

Ægialitis placida, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 244.

This is another rarity, resembling the small Ring-Plover in its nearly black bill, paler yellow legs and dark shafts to the primaries; but in size it exceeds even the last species, being nearly nine inches long, with the wing at least five-and-a-half, the shank over the inch, and the bill especially large, nearly an inch long.

It is an East Asiatic species, and not so uncommon as the last, having occurred several times in North-Eastern India from Nepal to Cachar.

None of the following species have any yellow on the bill.

The Kentish Plover.

Ægialitis alexandrina, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 240.

This species has an unusual amount of white in its plumage; the forehead, eyebrows, neck all round, breast, and most of the tail being all white as well as the belly. In summer the crown is rusty rather than brown, at any rate in the male, there are some black marks on the head,

and a black patch on each side of the breast, but no complete dark band as in the preceding Sand-Plovers. The bill and legs are all black.

The length is six-and-a-half inches, with the wing about four, shank just over the inch, and bill rather short of an inch.

Although a Kentish man myself, I must admit that this bird is most absurdly named, for it is really found over most of the Old World, usually only as a migrant in the southern portions. In our Empire, however, over which it is generally distributed, some birds breed, from Trincomalee to Kurrachee. The eggs are just over the inch long and rather streakily marked; sometimes only three are laid.

The Mongolian Sand-Plover.

Ægialitis mongolica and *Æ. geoffroyi*, BLANFORD,
Faun. Brit. Ind., Birds, Vol. IV, pp. 237, 239.

This species is in winter simply brown above and white below, with no white at the back of the neck as in the preceding Sand-Plovers, but with a more or less perfect brown band across the breast. In summer there are some black markings on the head, and the crown, back and sides of neck, and breast, are chestnut. The bill is black and the legs grey or olive.

There are two varieties or races of this species, differing practically only in size, the smaller and commoner being seven-and-a-half inches long, with a five-inch wing, and the bill three-quarters of an inch long. This is the true *mongolica*; the larger bird (*geoffroyi*) is about an inch longer, with the bill over an inch in length, and looking considerably larger in proportion. Dr. Blanford treats them as separate species, but Mr. Dresser in his "Manual of

Palæarctic Birds " unites them, and as size seems the main distinction, I follow him, as several birds of this family show great variation in this respect; although when I used to see both races in the Calcutta Market, they looked very distinct. The small one was the commonest Sand-Plover there.

They both winter on the shores of the Indian Ocean, but the larger race has a more easterly breeding-range than the other, which breeds in Central Asia, as well as in the more eastern haunts common to both. The small form has been found breeding round Tibetan lakes.

The Caspian Sand-Plover.

Egialitis asiatica, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 239.

This species is also brown above and white below in winter, but the whole breast and front of the neck are brown, except the throat; the wing-lining is a mixture of brown and white, and the axillaries or arm-pit plumes white. Young birds have reddish edges to the upper plumage, and the breeding-dress is chestnut on the breast, bordered with blackish below.

The bill is black and the feet olive-green.

The length is seven-and-a-half inches, the wing five-and-a-half, the shank about one-and-a-half, and the bill nearly an inch; very nearly the dimensions of the large race of the preceding species, though the bill is proportionately smaller. From this it can be distinguished by the brown on the fore-neck and under the wings.

This is a western bird, breeding from the Caspian to Central Asia, and normally wintering in Africa and on the Persian Gulf. But one has turned up at Ratnagiri thus bringing it in our area.

The Eastern Dotterel.

Ægialitis vereda, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 240.

This is a much enlarged edition of the last species, as big as the Eastern Golden Plover, with the whole wing-lining light brown, and also the axillaries. In summer plumage the whole front of the head and neck become white; below this there is a chestnut area terminating in a black band.

The bill is brown and the feet flesh-colour of a dingy tint.

The measurements closely correspond, as above noted, with those of the Eastern Golden Plover.

This is normally an East-Asiatic bird, breeding in North China and Mongolia, and wintering in the Malay Peninsula and Australia; its only occurrence in Indian limits is one in the Andamans about a generation ago.

There is one other of the Sand-Plover group whose status as an Indian bird is very doubtful, but for the sake of completeness I include it.

The Maroon-Backed Ring-Plover.

Ægialitis nigritrons, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 244.

This is a shade smaller even than our Little Ring-Plover, but bears a general resemblance to it, though with more black on the head and breast; it also differs very markedly in having a large patch on each side of the back, maroon or claret-colour, a most remarkable tint for a bird of this group.

It is an Australian bird, but one was supposed to have been obtained by Jerdon at the Pulicat Lake, near

Madras, nearly sixty years ago. But as Jerdon did not include it in the "Birds of India," Dr. Blanford suspects some mistake. He suggests that the skin is probably in the Indian Museum at Calcutta still, and there certainly was a skin there, and a stuffed specimen besides.

Of course, even if no doubt be felt about this particular occurrence, it is a mere chance one, but still many birds go down in a country's list on no better grounds, and as far as fortuitousness goes, we must not forget that not so very long ago a characteristic Indian bird, the White-eyed Buzzard (*Butastur teesa*) turned up in Australia. When once a bird gets started on the wrong tack it may traverse almost any distance.

CHAPTER XIV.

THE ABERRANT PLOVERS, CRAB-PLOVER, THICK-KNEES, &c.

In addition to the true Plovers of the family *Charadriidæ* there are a few more or less Plover-like birds which are nowadays always placed by systematists in separate families, owing to certain anatomical differences from the Plovers proper, which agree anatomically with the Sandpipers and Snipes. They agree in their habits with Plovers, running about on the ground and devouring small animals, and I am rather inclined to doubt whether the anatomical differences have not been overrated in this case. They are, however, supported by an external difference, all these false Plovers having the mouth of ordinary width, the corner being just about below the front of the eye, instead of under the forehead—the position which gives such a peculiar and characteristic expression to the heads of the *Charadriidæ* proper.

These abnormal Plovers are easily distinguished from each other as follows :—

The *Crab-Plover*, which is unique of its kind, by its mostly white plumage.

The *Thick-knees*, by having three toes only, webbed at the base.

The *Coursers* and *Pratincoles*, by having only the two outer toes webbed at the base, and a partition between the nostrils, whereas in the other two families and the *Charadriidæ* there is no such partition, and a hole shows right through the beak.

THE CRAB-PLOVERS (*Dromadidæ*).**The Crab-Plover.**

Dromas ardeola, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 208.

As this bird is the only member of its family, I may as well describe its characteristics under its specific heading. It is about as big as a crow, with a bill as large proportionate as that bird's, but straighter; the gape runs back to below the front of the eye, as I said above; the legs are long, with four toes, the hind-toe being present and better developed than is usually the case in shore-birds; the front toes are about half webbed. The wings are moderately long, like a Plover's, the head large, and the neck rather short. Altogether the bird looks like a compromise between a Gull and a Plover, and probably comes nearer than any other living bird to the original common ancestor of the two.

The plumage is mostly white, but in old birds a long patch down the middle of the back, a patch on each wing, and the outer webs of the pinion-quills are black. Young birds have the upper parts grey, and black streaks on the head and down the back of the neck. They are thus more like the Gulls than their elders are.

The bill is black, the eyes dark brown, and the legs French-grey.

The length is sixteen inches, the wing rather over eight, the shank nearly four, and the bill about an inch shorter.

This is a bird of salt water, frequenting the sea-coast and salt lakes, usually in flocks. It extends from the Persian Gulf and Red Sea to the Malay Peninsula. I once saw two specimens at Aden, on my first stoppage there, and I afterwards saw more in the Andamans. The

bird runs and flies like a Plover, and has a rather musical call. It feeds on crabs for the most part, easily smashing up the unfortunate crustaceans with its heavy bill, and bolting even the claws whole.

Its breeding-habits are not in the least what one would expect in a bird of its shape and affinities, for it digs out a long downwardly-curved burrow in a sandy beach and lays therein one white egg. This egg is uncommonly large for its owner, measuring two-and-a-half inches. The breeding-time is about May, at any rate in the Persian Gulf and Ceylon.

THE THICK-KNEES (*Ædicnemidæ*).

The Thick-knees, or Stone-Curlews, forming this family, are birds of the general appearance of Plovers, but larger than these usually are. They also have strong heavy bills, with the gape extending to the front of the eye; the said eye being always yellow. The feet have three toes only, all united by a web at the base, whereas in the true Plovers only the outer two are usually thus connected. Their young, eggs, and habits are Plover-like, but they are more nocturnal. They are found all over the world in warm and temperate climates, and three species are Indian.

The Common Thick-knee or Stone-Curlew.

Ædicnemus scolopax, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 204.

NATIVE NAMES:—*Karwanak*, *Barsiri*, Hind.; *Lambi*, among falconers; *Kharma*, Bengali; *Kaledu*, Telugu; *Kana mosul*, Tamil.

This is the most Plover-like of our species, having a bill very like a Plover's on a larger scale. Its plumage

is dun or drab with dark streaks, the quills of the wings and tail being boldly marked with black and white, concealed in repose, but very evident when the bird flies or rushes about with wings and tail outspread,—a habit seemingly common in the family. Birds from sandy tracts are palest. The bill is yellow with a black tip, the large eyes beautiful golden yellow, the eyelids and feet also yellow.

The length is about sixteen inches, with the wing about nine, shank three, and bill two.

The Common Thick-knee has a fairly wide range, from Central Europe to South Asia, including our Empire; it is a resident bird in the East, though migratory in England, which it leaves for the south in autumn, unlike most birds of this group. It chiefly frequents dry ground, and has a habit of lying flat on the ground with its neck stretched out when it wishes to conceal itself, like a Bustard. Indeed, it so much reminds people of the Bustard family in many respects that it is sometimes known as Bastard Florican. The big Plover-like head, however, is very unlike the small head of the Bustard, and the body is not so broad and flat. This bird is good eating. The note is somewhat like that of the Curlew.

The breeding-time in India is from February to August, and the eggs, usually only two in number, are laid on the bare ground. Their colour varies, the ground being buff or olive-green, with black blotches and sometimes purplish markings. They are about two inches long. The young birds have the hock-joints big and swollen, whence the name Thick-knee, which is about the best of the English names, being most distinctive, though the Cape-Dutch name for the local species there “Dikkop” (Thick-head) is better. I only once got this bird in the Calcutta Bazaar—a live specimen which I purchased for the Calcutta Zoo.

The Great Thick-knee or Goggle-Eyed Plover.

Esacus recurvirostris, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 205.

NATIVE NAMES :—*Burra karwanak*, Hind. ; *Abi*, among falconers ; *Gang tilai*, in Bengal ; *Mien-zain*, Burmese.

This species is as big as an ordinary Indian fowl, with a huge head and eyes and a great powerful bill, very straight along the ridge, in which all resemblance to the Plover's beak is lost. The plumage is drab above and shades into white below, with no noticeable streaks, but with black and white markings on the wing-and tail-quills similar to those of the Common Thick-knee. There is a dark stripe along each side of the face and a dark band on the wing. The bill is black, pale yellow at the root, the eyes are a pale yellow, and the legs a sickly yellowish also. The length is twenty inches, the wing being over ten, the shank three-and-a-quarter, and the bill a little longer.

This extremely curious-looking bird is found only in our Empire, frequenting the banks of large rivers in the plains and in Ceylon the sea-shore. It seems to feed chiefly on crustacea and molluscs, but I expect it devours small vertebrates, such as mice, frogs, and young birds, also. It is said to have a loud harsh croaking note, but I should call what I have heard from it a squeal, varying from the awful screech of a slate-pencil "scrooped" perpendicularly down a slate—as we have all done in our youth—to a regular yell, almost like a pig's, when the bird is handled. I have had a chance of hearing this from a live specimen I got in the Calcutta Bazaar for the Calcutta Zoo ; I do not remember ever seeing another in this market. This bird lived for some time in the gardens, and latterly had a

companion which it did not receive at all well at first—which I got for the garden from a Eurasian who had reared it from a chick. This bird was still alive when I left, and I hope it is still; it used to be delightfully tame, and would follow visitors about like a dog, though the greedy Ibises got most of the contributions offered it, as both this and the other individual were very nervous birds, not good in a scramble. Such a specimen would be a very nice and useful garden pet, and it ought to be easy to rear the young under a hen; minced meat mixed with rice, small shrimps, and insects, would probably be suitable food. Only two eggs are laid by this bird, without a nest; they may be found between February and May, and are stone-coloured with dark blotches, and just over two inches long.

The Australian Great Thick-knee.

Esacus magnirostris, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 207.

This much resembles the last, but is even larger, especially as regards the bill, which is considerably thicker and has the ridge curved instead of straight. There are a few small differences in plumage, but that in the bill is quite enough for discrimination.

This species, which is properly a bird of the further east, is found from the Malay Archipelago to the shores of Australia, being a true coast-bird. In our limits it haunts only the shores of the Andamans and Cocos Islands; I once saw a pair in the former group, and fine birds they were. I am glad now the Museum taxidermist who was with me failed to shoot them, though they gave him several chances, not being very wild, and only leaving when tired of the noise. Eggs of this giant among the Plovers have been taken in both the Cocos and Andamans in March and April; they

are larger than those of the last species, being over two-and-a-half inches long, but otherwise similar.

THE PRATINCOLES AND COURSERS (*Glareolidæ*).

The birds of this family falls into two distinct types—the Coursers, which are much like ordinary Plovers but for the partition between the nostrils and the wider gape, and the Pratincoles or Swallow-Plovers, which are a curious compromise between Plovers and Swallows, having the general form of the latter with the legs of the former; these have a hind-toe, whereas the Coursers have none. None exceed a Dove in size. Their eggs resemble those of Plovers, but are more oval and less pegtop-shaped; they are laid on the bare ground, and the young are active.

The Coursers frequent dry places and are great runners; the Pratincoles keep near water and feed much on the wing like Swallows.

Both groups are confined to the Old World, and the Coursers do not go east of India. We have three species of each section.

The Cream=coloured Courser.

Cursorius gallicus, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 211.

This bird is perhaps the most familiar, being included in the British list on the strength of a few occurrences at home. The slender bill is slightly curved downwards, and the legs are long. The plumage is buff, fading to cream below; the back of the head is pale grey, the eyebrows white, and a band round the head, the quills and wing-lining, and a band near the white tip of the tail, are black. Young birds are barred with black all over. The bill is black, the eyes brown, and the legs white.

The length is ten inches, with the wing six-and-a-half, the shank two-and-a-quarter, and the bill about one-and-a-half.

This is a bird of the western deserts, from the dry parts of Southern Europe to North-West India ; but it is doubtful whether it breeds with us.

The Indian Courser.

Cursorius coromandelicus, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 210.

NATIVE NAMES :—*Nukri*, Hind. ; *Yerra Chitawa*, *Durawayi*, Telugu.

With a great general similarity to the last, this bird is decidedly smaller, and darker in plumage, being brown instead of buff, with a chestnut crown and breast and a black patch on the belly ; the upper tail-coverts are white, and the axillary or arm-pit plumes brown, not black as in the other ; there is no grey on the head, but the same black and white markings there. The young are also pencilled with black.

A purely Indian bird, this species inhabits open dry plains in the Peninsula and the North of Ceylon, but it is usually absent from the North-West, where the last species is found.

Its eggs may be found from March to July, and are stone-coloured spotted with black, rather over an inch long, any two or three in number.

Jerdon's Courser.

Rhinoptilus bitorquatus, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 212.

NATIVE NAMES :—*Adava wuta-titti*, Telugu.

Jerdon's Courser is more Plover-like than the last two, its bill being straight, without the downward curve, and the eyes large. Its plumage also is much more

variegated. Above it is brown, with a buff streak along the crown and a white band bordering it; the upper tail-coverts and a band on the wing are white, and the wing and tail-quills marked with black and white. The throat is cream-colour running into chestnut, bordered below by a black-edged white band, and this by a broad space of brown; this again ending in black and white bands; below this all is yellowish-white.

The bill is yellow at the base and black at the tip, the eyes dark, and the legs yellowish-white. I believe the young are spotted, from a specimen we had in the Indian Museum. The length is just over ten inches, the wing six-and-a-half, shank about two-and-three-quarters and bill about one.

The Double-banded Plover, as Jerdon called this bird, is very rare, and, unlike our other Coursers and true Plovers, haunts scrubby country and even thin forest. Only a few specimens have been obtained between the Godavery and Madras, and the eggs have never been found. There are several species of these banded Coursers in Africa, and the present one is evidently an expiring relic of the time when African types inhabited India to a much greater extent, as shown by the Siwalik fossil mammals.

The Pratincoles, with their broad heads, somewhat fowl-like bills, long swallow-like wings, are all very similar in build; they have a hind-toe, and the inner edge of the middle front one noticeably serrated. They all have dark eyes, black legs, and black bills, red at the corner of the mouth.

The Large Indian Pratincole.

Glareola orientalis, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 214.

This species is brown with a white belly, forked white tail tipped with black, and wing-lining and axillary

plumes chestnut; the throat is cream-coloured, bounded by a black band. In young birds this throat-bordering is wanting, the throat has dark streaks, and the upper plumage is spotted with buff.

The length is nine-and-a-half inches, with the wing rather over seven, shank rather more than one, and bill one; the tail is three inches long, with the fork about an inch deep.

The Indian Pratincole is found all over our Empire in the plains, and eastward to East Siberia on the north and Australia on the south. It is sometimes migratory, but breeds with us in Sind, Ceylon, Pegu, and Lower Bengal: I have seen unfledged young brought into the Calcutta Bazaar. I cannot recall the date when I saw these, but in Pegu and Sind the breeding-time is April and May. The eggs, laid in a hollow in the sand near water, are two or three in number, stone-colour heavily marked with blackish, and just over an inch long.

The European Pratincole.

Glareola pratincola, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 216.

This is much like the last, but has a longer tail, over four inches long, with the fork more than an inch deep, even up to two inches.

It is a migrant, summering from Central Europe to Central Asia, and wintering in Africa. It breeds in Sind along with the Indian Pratincole, and stragglers have turned up elsewhere, from Allahabad to Ratnagiri. Its eggs are like those of the Indian bird, and indeed it is doubtful whether the present deserves specific rank.

The Small Indian Pratincole.

Glareola lactea, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 216.

Besides being much smaller than the other Indian species this very pretty little bird differs in not having a forked tail. The plumage is also very different, being a delicate pale drab, with the belly and base of tail white, and the end of the tail, wing-lining, and axillary plumes black.

The length is only six-and-a-half inches, with the wing nearly six, and shank and bill each rather under the inch.

This is the commonest Pratincole in India, and is found all over our Empire, in the plains, but not outside it, nor in the Andamans and Nicobars. It breeds from March to May on sandbanks in rivers along with Terns, and lays from two to four eggs, stone-coloured, greenish-grey or buff, with few and light markings, and about an inch long.

CHAPTER XV.

THE JACANAS.

THE Jacanás (family *Parridæ*) form one of the most remarkable families of wading birds, and are found all round the world in warm climates ; they do not migrate as a rule, and for their peculiar mode of life need water well overgrown with aquatic vegetation, their extraordinarily long toes enabling them to run easily over the leaves without sinking. In this respect they somewhat resemble the Rails, with which they were formerly classed ; but the Jacanás are still better adapted for this kind of life than the Rails, as all their toes are long and provided with almost straight claws of extravagant length, especially the hinder, while in the Rails the claws are of more ordinary size and form, and the hind-toe and claw rather short. Moreover, the Jacanás have a plump body and are not slab-sided like the Rails ; while their bills resemble that of a Pigeon or Plover, and it is to the Plovers that their anatomy shows them to be allied. They build their nests on the water-weeds ; their downy young are variegated, not black like those of the Rail family. Their plumage is very pretty, and cock and hen are alike. We have only two species in India, but these are amongst the very commonest of our water-birds, and a great many are brought into the Calcutta Provision Bazaar every winter. In spite of their long spidery-looking legs and toes, they are good table-birds, and quite worth putting on the list of game-birds, and protecting as such. They are not shy birds, and often live near human dwellings.

The Bronze-winged Jacana.

Metopidius indicus, BLANFORD, Faun. Brit. Ind.,
Birds, Vol. IV, p. 218.

NATIVE NAMES :—*Dal-* or *Jal-pipi*, *Karatiya*, in Bengali ; *Kattoi*, in Purneah ; *Bi*, in Burma.

I take this first, as it is a typical example of the family, our other species differing considerably from all other Jacanás. The Bronze-winged species has a thick-set body and very short tail, rather short and decidedly rounded wings, and very long stout legs, with the claws very long and straight, the hinder one positively enormous. The bill also is rather stouter than of the other species, and there is a small rounded flap of skin on the forehead.

The plumage of the young is quite different from that of the adult, but there is no seasonal change.

The old bird is very richly and handsomely coloured, being green-black with conspicuous white eyebrows, and with the upper back and wings (except the pinion-quills) metallic bronze ; the lower back and tail are glossy maroon. The eyes are dark, the legs dull green, and the bill greenish-yellow with a touch of red at the root, and the flap on the forehead dark bluish.

The young bird has the neck and underparts white where they are black in the old one, except for a patch of green-black on the back of the neck. The crown is chestnut, and there are chestnut edgings at first to the bronze feathering on the back and wings ; the lower back is pencilled with black and chestnut, and the tail with black and buff, and there is a buff wash on the sides of the neck and on the breast. Birds in the transition stage seemed scarce in the Calcutta Market, so presumably they come into colour late in the spring. Hens at any age are rather

larger than cocks, being a foot long, with a shank of more than two-and-a-half inches, and wings of seven from knuckle to tip.

This bird is found over most of the Indian Peninsula and east to Celebes, but not in Ceylon or Kashmir, the Punjab, Sind, or Western Rajputana, and chiefly affects places where there are permanent marshes, hiding a good deal in the herbage. It feeds both on insects, etc., and on vegetable food, such as roots and seeds, and breeds from June to September, laying usually four eggs of a buff or olive colour, marked with a confused network of dark lines and very glossy; they measure about an inch and a half in length. I found it was brought not nearly so numerously into the Calcutta Bazaar as the next species, and it seemed a more nervous bird, uttering a harsh gull-like scream, not only when taken in hand, but before it was touched. Despite this disposition to scream on slight provocation, however, it must be a pretty tough fighter, for it has the *radius* or inner bone of the forearm developed into a thin flat blade, wherewith it ought to be able to give a nasty cutting blow. One would, indeed, think that with such weapon it would hurt itself as much as its adversary, inasmuch as the skin of course extends over the sharp-edged bone; but perhaps in the heat of the engagement it does not mind that, or thinks the end justifies the pain, as the man in Mr. Kipling's story discomfited "the bloody-minded Simmons" by taking a hack across his own shin. Nobody has yet sent this bird to the London Zoo, and I hope someone will do so, as the birds are now properly looked after there. It should be fed at first on soaked paddy, and gradually got to take boiled rice and a little chopped meat or other animal food, and the legs should be kept in good condition by having water thrown over them daily, or better still, the lower part of the cage (which should have a barred floor over the draw-tray) immersed in a bath.

The Pheasant-tailed Jacana or Water-Pheasant.

Hydrophasianus chirurgus, BLANFORD, Faun. Brit. Ind., Birds, Vol. IV, p. 219.

NATIVE NAMES :—*Piho*, *Pihuya*, Hind. ; *Surdal*, *Sukdal*, *Miwa*, *Dal-kukra*, *Bhepi*, *Jal-manjor*, *Chittra-billai*, in Bengal and Behar ; *Balal Saaru*, and *Newiya* in Ceylon ; Europeans in that island know it as “Tank-Pheasant.”

This beautiful creature is about the same size as the last species, but somewhat different in form, having a more slender bill and legs, with decidedly shorter claws, and a longer and pointed tail ; the wings are also much longer and decidedly pointed. The first quill has a curiously shaped tip, like a lance-head, the shaft connecting this with the rest of the feather being very slender and flexible. The fourth quill also ends peculiarly, running suddenly to a point. There is a very marked seasonal change of plumage, not only in colour but in the length of the tail, and in the breeding-season a strong sharp spur is developed on the bend of the wing.

In full breeding-plumage the tail is ten inches long—a foot in the hen, which is larger than the cock—shaped like that of a Pheasant and black in colour, as is most of the plumage ; the head and throat, however, are white, as are also the wings except for a black bordering to each quill, decreasing from outside inwards ; the back of the neck is a lovely glossy golden yellow. The bill is bluish, and the legs a greenish colour ; the eyes are usually dark.

In winter the wings remain the same, except for some brown pencilling near the shoulder, but the long tail is re-

placed by a short white one with brown centre feathers ; it is still, however, pointed and longer than in our other Jacaná ; the black disappears from the body plumage, the underparts being white as well as the throat, and the back a glossy light brown ; the yellow is reduced to a dull streak down each side of the neck, and the crown of the head is brown.

Young birds are clothed in a very similar plumage to this undress, but have a chestnut crown and chestnut borders to the upper plumage, and no yellow on the neck ; moreover they have yellow eyes as a rule, though I have twice seen dark-eyed young birds, and much more frequently yellow-eyed old ones. I hardly ever saw a bird in the Bazaar showing change of plumage, contrary to what one so frequently sees in some groups, the duck tribe for instance.

This Jacaná is more widely distributed than our other species, extending all over India and Ceylon, and east to South China and Java ; it frequents open water more and takes wing more readily. Its cry is different, being a cat-like mew, and it utters it less frequently, not crying out even when handled. Its eggs are very different from those of the bronze-winged species, being remarkably peg-top-shaped and uniform in colour, not marked ; they are reddish brown or greenish bronze, very glossy, and about an inch and-a-half long. Four are laid in a nest on weeds like that of the other bird.

When in Calcutta I used to take much interest in this species, to my mind the most beautiful of all our smaller aquatic birds, and hardly equalled in this respect by any bird whatsoever. It can be easily kept on a large weedy tank with its wings clipped (not too closely) and in its proper place, on weeds, the large size of its feet is not apparent, and its singular grace of form pleases the eye even when the showy breeding plumage is not developed.

I kept several specimens on the tank in the Indian Museum compound, so had considerable opportunities of observing them. I found they were very sedentary in their habits and also resented each other's trespass on their chosen spot; an intruder was attacked with both beak and wings, both of the latter striking at once. The small males seemed to stand in much awe of the females, and with considerable reason; it would be interesting to know which sex sits on the eggs. They sometimes swam, sitting on the water even more lightly than a gull; but unlike most gulls they can dive, using their wings under water, not their feet. They seemed to feed mostly on small snails, which they procured by turning over the leaves, but I found that in closer captivity they would eat the diet I recommend above for the other species, and I succeeded in sending nine to the London Zoo, the first received there.

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APPENDICES.

APPENDIX I.

SYNOPTICAL TABLE OF THE INDIAN PERCHING WADERS.

Wading birds have short tails and part of the leg naked above the hock; in the present section the bill is always large, and the hind-toe well developed and fitted for grasping.

The characters given in this table apply to the several species as a whole, irrespective of age or sex. As the sexes are generally alike in this family, and the young also usually fairly recognizable, I have not given a separate table for adult males.

A. *Size large; bill straight or only curved towards the tip, not grooved; all front toes joined by a web at the base*—STORKS (p. 5).

I. Head and neck naked; bill extremely thick.

1. Very large; closed wing more than two feet six inches—*Adjutant* (p. 12).

2. Smaller; closed wing about two feet—*Marabout* (p. 14).

II. Head and neck all feathered; bill long and thick; wing two feet—*Jabiru* (p. 10).

III. Head naked beyond eyes all round; bill curved at tip—*Fainted Stork* (p. 15).

IV. Bill straight; face only naked.

1. Length well over a yard; colour mostly white—*White Stork* (p. 7).

2. Length well over a yard; colour mostly dark—*Black Stork* (p. 9).

3. About a yard long; plumage dark, neck white—*White-necked Stork* (p. 17).

4. Under a yard long; plumage light, grey or white—*Open-bill* (p. 18).

B. *Size medium; bill curved throughout; all front toes webbed at base*—IBISES (p. 21).

I. Plumage white—*White Ibis* (p. 23).

II. Plumage dark.

1. Tail longer than bill; bill under six inches—*King Ibis* (p. 25).

2. Tail longer than bill; bill seven inches—*Burmese King Ibis* (p. 26).

3. Tail shorter than bill; only about two feet long—*Glossy Ibis* (p. 27).

C. Size medium; bill spoon-shaped—*SPOONBILL* (p. 28).

D. Size variable, from nearly five feet to less than one-and-a-half; bill straight with a marked groove running down it from the nostril; only two outer toes webbed at base—*HERONS* (p. 30).

I. Size large, over a yard; plumage never pied, all grey, or all white—*Typical Herons* (p. 33).

1. Size under four feet, general colour light grey—*Common Heron* (p. 34).

2. Size under four feet, general colour brown and grey—*Purple Heron* (p. 35).

3. Size over four feet; head and neck brown, body grey—*Giant Heron* (p. 36).

4. Size over four feet, dark with white throat—*Dusky Grey Heron* (p. 38).

5. Size over four feet; slate-grey with white belly—*Great White-bellied Heron* (p. 38).

II. Not over a yard long; all white, all slate, or pied—*Egrets* (p. 40).

1. Pure white, a yard long—*Large Egret* (p. 47).

2. Pure white, rather over two feet, bill shorter than shank—*Middle Egret* (p. 48).

3. Pure white, rather over two feet, bill longer than shank—*Little Egret* (p. 49).

4. White or slate, about two feet long, bill half an inch longer than shank—*Indian Reef Egret* (p. 51).

5. White or slate, just under two feet long, bill an inch longer than shank—*Burmese Reef Egret* (p. 52).

6. Plumage regularly pied, wings, belly and tail white, rest coloured—*Common Paddy Bird* (p. 41).

7. Plumage pied as above, but larger, wing nine inches—*Chinese Paddy Bird* (p. 42).

8. White, or white and orange, bill quite short, not longer than middle toe and claw—*Cattle Egret* (p. 43).

III. Well under a yard long; plumage never all white, all slate, or pied; neck very fully feathered—*Bitterns and Night Herons* (p. 54).

1. Over two feet long; plumage dun, mottled with black—*Common Bittern* (p. 58).

2. Nearly two feet; beak very stout, plumage slate and black or brown with white spots—*Night Heron* (p. 55).

3. Nearly two feet; bill long and slight—*Black Bittern* (p. 59).

4. About eighteen inches, twelve tail feathers—*Green Bittern* (p. 60).

5. Bill very short; not so long as the shank—*Short-billed Night Heron* (p. 57).

6. Under fifteen inches, bare space above hock, as usual in waders—*Chestnut Bittern* (p. 62).

7. Under fifteen inches; feathering coming down to hock; bill longer than middle toe and claw—*European Little Bittern* (p. 63).

8. Under fifteen inches; feathered down to hock; bill shorter than middle toe and claw—*Eastern Little Bittern* (p. 64).

APPENDIX II.

SYNOPTICAL TABLE OF INDIAN NON-PERCHING WADERS.

The characters given in this synopsis apply to each species irrespective of age, sex, or season. None of the families in this section (except the *Anas*, which are easily recognizable) have a long hind-toe, and some have none.

Bill short, stout, curved down; neck and legs very long, feet webbed—
FLAMINGOES (p. 67).

1. Upper jaw closing on top of lower in the ordinary way—*Common Flamingo* (p. 71).

2. Upper jaw closing in between edges of lower jaw—*Small Flamingo* (p. 73).

*Bill slight, straight; neck and legs long, two outer front toes webbed at base; size large—*CRANES (p. 74).

1. Over four feet long; plumage light grey; a white collar—*Sarus* (p. 78).

2. Over four feet long; plumage darker grey; no collar—*Burmese Sarus* (p. 81).

3. Over four feet long; plumage white or buff—*White Crane* (p. 82).

4. Under four feet long; head and neck mostly dark—*Common Crane* (p. 83).

5. Under four feet long; head and neck white—*Hooded Crane* (p. 86).

6. Under a yard long—*Demoiselle* (p. 87).

*Size of a fowl or smaller; body flat-sided, wings short; toes four with no webs at base; bill various—*RAILS (p. 89).

A. Bill much shorter than shank; a shield on forehead.

A1. Toes fringed with a scalloped web—*Coot* (p. 91).

A2. Bill very thick; plumage blue—*Porphyrio* (p. 94).

A3. Shield on forehead pointed—*Water-cock* (p. 96).

A4. Toes flat beneath—*Moorhen* (p. 93).

A5. Breast white; stern chestnut—*White-breasted Waterhen* (p. 98).

B. Bill as long as shank.

B1. No white on back; a brown streak alongside of head—*Indian Water-rail* (p. 100).

B2. No white on back and no brown streak on side of head—*European Water-rail* (p. 101).

B3. Back speckled with white ; cap and back of neck chestnut—*Blue-breasted Banded Rail* (p. 101).

B4. Back speckled with white ; cap and back of neck bay—*Andamanese Banded Rail* (p. 102).

C. Bill much shorter than shank ; no shield on forehead.

C1. Wings plain chestnut—*Corncrake* (p. 103).

C2. Back marked with black and white ; nine inches long—*Spotted Crake* (p. 104).

C3. Back marked with black and white ; edge of first quill white ; under eight inches long—*Eastern Baillon's Crake* (p. 104).

C4. Back marked with black and white ; no white edge to first quill ; about eight inches long—*Little Crake* (p. 105).

C5. Back plain, belly banded ; about ten inches long ; legs not red—*Banded Crake* (p. 106).

C6. Back plain, belly banded ; legs red—*Malayan Banded Crake* (p. 107).

C7. Back plain, belly banded ; over a foot long—*Andamanese Banded Crake* (p. 107).

C8. Back and belly both unmarked ; legs red ; not grey below—*Ruddy Crake* (p. 108).

C9. Back and belly both unmarked ; legs red ; grey below—*Elwes' Crake* (p. 109).

C10. Back and belly both unmarked ; legs not red—*Brown Crake* (p. 109).

Shanks very short ; toes edged with scalloped skin ; tail well-developed and large—*FINFOOT* (p. 111).

Size large to medium ; three toes only ; neck long, head small—*BUSTARDS* (p. 112).

1. More than two-and-a-half feet long ; head uniform pale grey—*Great European Bustard* (p. 116).

2. Three or four feet long ; cap dark, cheeks and neck pale—*Great Indian Bustard* (p. 119).

3. Less than two-and-a-half feet long ; black-and-white ruff—*Houbara* (p. 122).

4. Less than two-and-a-half feet long ; no ruff or a completely black one—*Florican* (p. 123).

5. Well under two feet long ; quills broadly banded black and white—*Little Bustard* (p. 118).

6. Well under two feet long ; quills narrowly banded black and buff—*Leek* (p. 125).

Corner of mouth not extending beyond forehead-feathering ; bill slight, or varying length ; wings large ; size medium to small—*FLOVERS, SAND-PIPERS, AND SNIPES* (p. 128).

A. Bill long ; plumage pied.

A1. Bill slender, curved down ; plumage grey and white—*Ibis-bill* (p. 130).

APPENDIX II.

SYNOPTICAL TABLE OF INDIAN NON-PERCHING WADERS.

The characters given in this synopsis apply to each species irrespective of age, sex, or season. None of the families in this section (except the Jaçanás, which are easily recognizable) have a long hind-toe, and some have none.

*Bill short, stout, curved down; neck and legs very long, feet webbed—*FLAMINGOES (p. 67).

1. Upper jaw closing on top of lower in the ordinary way—*Common Flamingo* (p. 71).

2. Upper jaw closing in between edges of lower jaw—*Small Flamingo* (p. 73).

*Bill slight, straight; neck and legs long, two outer front toes webbed at base; size large—*CRANES (p. 74).

1. Over four feet long; plumage light grey; a white collar—*Sarus* (p. 78).

2. Over four feet long; plumage darker grey; no collar—*Burmese Sarus* (p. 81).

3. Over four feet long; plumage white or buff—*White Crane* (p. 82).

4. Under four feet long; head and neck mostly dark—*Common Crane* (p. 83).

5. Under four feet long; head and neck white—*Hooded Crane* (p. 86).

6. Under a yard long—*Demoiselle* (p. 87).

*Size of a fowl or smaller; body flat-sided, wings short; toes four with no webs at base; bill various—*RAILS (p. 89).

A. Bill much shorter than shank; a shield on forehead.

A1. Toes fringed with a scalloped web—*Coot* (p. 91).

A2. Bill very thick; plumage blue—*Porphyrio* (p. 94).

A3. Shield on forehead pointed—*Water-cock* (p. 96).

A4. Toes flat beneath—*Moorhen* (p. 93).

A5. Breast white; stern chestnut—*White-breasted Waterhen* (p. 98).

B. Bill as long as shank.

B1. No white on back; a brown streak alongside of head—*Indian Water-rail* (p. 100).

B2. No white on back and no brown streak on side of head—*European Water-rail* (p. 101).

A2. Bill deep and straight ; plumage black and white ; legs moderate—*Oyster-Catcher* (p. 131).

A3. Bill slender, strongly curved up ; feet webbed—*Avocet* (p. 132).

A4. Bill slender, straight ; legs enormously long—*Stilt* (p. 132).

B. Bill long, slender, straight, overshot ; eyes far back ; no webs at base of toes.

B1. About size of pigeon, quills marked with chestnut on edges—*Woodcock* (p. 138).

B2. About a foot long, narrow outer tail-feathers plain brown—*Wood-snipe* (p. 141).

B3. About a foot long, narrow outer tail-feathers white with dark bars—*Himalayan Solitary Snipe* (p. 142).

B4. Under a foot long, all tail-feathers normally broad—*Common or Fantail Snipe* (p. 144).

B5. Under a foot long, outer tail-feathers very narrow—*Pintail Snipe* (p. 148).

B6. Under nine inches ; tail pointed ; back glossed green and purple—*Jack Snipe* (p. 150).

B7. About a foot long, outer tail-feathers normally broad and mostly white—*Double Snipe* (p. 152).

C. Bill long, slender, slightly curved down at end, quills and tail French-grey with large buff spots—*Painted Snipe* (p. 155).

D. Size of a pigeon or larger, plumage mottled dun, bill long and curved down.

D1. About size of fowl, crown uniformly streaked light and dark—*Curlew* (p. 160).

D2. About size of pigeon, crown dark brown with creamy central stripe—*Whimbrel* (p. 161).

E. About size of lark ; toes edged throughout with web.

E1. Bill narrow—*Red-necked Phalarope* (p. 161).

E2. Bill broader and flat—*Grey Phalarope* (p. 162).

F. Barely larger than sparrow ; bill with a broad diamond-shaped tip—*Spoon-billed Stint* (p. 163).

G. Bill long, overshot, web at base, of outer toes at least ; length over a foot.

G1. Tail white at base, black at tip—*Black-tailed Godwit* (p. 163).

G2. Tail barred, brown and white—*Bar-tailed Godwit* (p. 164).

G3. Bill exactly like a snipe's ; all toes webbed at base—*Snipe-billed Godwit* (p. 165).

H. Bill rather long and slender ; no hind-toe—*Sanderling* (p. 165).

I. Size small ; bill long, twice as long as the short shank—*Terek Sandpiper* (p. 166).

J. Bill rather short, much shorter than shank, tail plain brown—*Ruff and Reeve* (p. 166).

K. Bill slender, straight, rather long outer toes webbed at base.

K1. About size of pigeon ; bill about equalling shank ; greyish drab ; legs green—*Greenshank* (p. 168).

K2. Rather smaller; bill longer than shank; legs dull yellow—*Armstrong's Greenshank* (p. 168).

K3. Under a foot long, legs red or orange; tail barred black and white; large white patch on wing—*Redshank* (p. 169).

K4. Over a foot long; legs red; tail barred; no white patch on wing—*Spotted Redshank* (p. 169).

K5. Under ten inches long; plumage dark brown spotted with white—*Spotted Sandpiper* (p. 170).

K6. Under ten inches long; plumage olive-brown without light spots—*Common Sandpiper* (p. 171).

K7. Nearly ten inches long; olive-brown; tail broadly barred black-and-white—*Green Sandpiper* (p. 171).

K8. Ten inches long; plumage drab-grey like large Greenshank—*Little Greenshank* (p. 172).

L. Bill slender, medium to rather long; no webs at base of toes.

L1. Nine inches long; wing six; upper tail-coverts barred black-and-white—*Knot* (p. 173).

L2. Nearly a foot long; wing over seven; upper tail-coverts all white—*Eastern Knot* (p. 173).

L3. Bill slender, medium, straight; tail-feathers conspicuously pointed—*Asiatic Pectoral Stint* (p. 174).

L4. Bill long, slightly bent down; upper tail-coverts dark—*Dunlin* (p. 174).

L5. Bill long, decidedly bent down; upper tail-coverts mostly white—*Curler's Stint* (p. 175).

L6. About seven inches long; bill long, rather broad, flat—*Broad billed Stint* (p. 175).

L7. About six inches long; upper plumage drab with dark streaks; legs light—*Little Stint* (p. 176).

L8. About six inches long; upper plumage drab with dark streaks; legs dark—*Eastern Little Stint* (p. 176).

L9. About six inches long; toes long, middle one exceeding length of shank—*Longtoed Stint* (p. 177).

L10. About six inches long; upper plumage nearly uniform drab; tail nearly all white—*Temminck's Stint* (p. 177).

M. Bill short as a pigeon's, very straight; legs short, no webs at base of toes—*Turnstone* (p. 179).

N. Bill short, as a pigeon's and much like it in shape; legs rather long, wings broad and blunt; back plain or only with light edgings to feathers.

N1. Red face-wattle and small hind-toe present; white eyeband running down neck—*Common Indian Lapwing* (p. 180).

N2. Red face-wattle and small hind-toe present; white eyeband not going down neck—*Burmese Red-wattled Lapwing* (p. 181).

N3. Crest and hind-toe present; not spur on wing—*European Lapwing* (p. 182).

N4 Crest and wing-spur present; no hind-toe—*Spur-winged Lapwing* (p. 182).

N5. Large yellow face-wattle; no wing, spur or hind-toe—*Yellow-wattled Lapwing* (p. 183).

N6. Small yellow face-wattle and hind-toe; no crest—*Grey-headed Lapwing*—(p. 184).

N7. No crest or wattle; tail all white—*White-tailed Lapwing* (p. 185),

N8. „ „ tail black and white—*Sociable Lapwing* (p. 185).

O. Bill short and pigeon-like; wings pointed; upper parts closely speckled with yellow or white—**PLOVERS** (p. 186).

O1. No hind-toe, wing lining drab—*Eastern Golden Plover* (p. 186).

O2. „ „ „ white—*European Golden Plover* (p. 188).

O3. A small hind-toe; wing lining white with black arm-pit plume—*Grey Plover* (p. 188).

P1. Bill short and pigeon-like; wings pointed; back plain or merely light-edged; no hind-toe.

P. Size of Lark; a white collar; bill dark, legs light—*Little Ring Plover* (p. 189).

P2. Rather larger; a white collar; bill yellow, black-tipped; legs yellow—*European Ring Plover* (p. 190).

P3. Rather larger; a white collar; bill black, nearly one inch long; legs light—*Long-billed Ring Plover* (p. 191).

P4. Size of Lark; a white collar; legs black as well as bill—*Kentish Plover* (p. 191).

P5. Size of Lark or larger; no white at back of neck; wing-lining white—*Mongolian Sand-Plover* (p. 192).

P6. Rather larger than Lark; no white at back of neck; wing-lining brown-and-white—*Caspian Sand-Plover* (p. 193).

P7. Size of Golden Plover; plain brown above; wing-lining brown—*Eastern Dotterel* (p. 194).

P8. Like Little Ring Plover, but with maroon patch on each side of back—*Maroon backed Ring-Plover* (p. 194)

Plumage black-and-white; bill crow-like; feet half-webbed, with hind-toe rather well developed—**CRAB-PLOVER** (p. 197).

Like large Plovers, but bill stout, with corner of mouth below front of eye and all toes webbed at the base; no hind-toe—**THICK-KNEES** (p. 198).

1. Plumage dun with dark streaks—*Common Thick-knee* (p. 199).

2. Plumage plain drab; ridge of bill straight—*Great Thick-knee* (p. 200).

3. Plumage plain drab; ridge of bill curved, convex—*Australian great Thick-knee* (p. 201).

Like Plovers, but with a partition between nostrils and the corner of mouth extending beyond forehead—**PRATINCOLES & COURSERS** (p. 202).

A. No hind-toe; wings moderate as in Plovers.

A1. Bill slightly curved down; ground-colour of plumage buff—*Cream-coloured Courser* (p. 203).

A2. Bill slightly curved down ; ground-colour of plumage brown—*Indian Courser* (p. 203).

A3. Bill straight, Plover-like ; plumage brown above—*Jerdon's Courser* (p. 204).

B. Hind-toe present ; wings very long as in swallows.

B1. Ground-colour of plumage brown ; fork of tail about an inch deep—*Large Indian Pratincole* (p. 205).

B2. Ground-colour of plumage brown ; fork of tail over an inch deep—*European Pratincole* (p. 206).

B3. Plumage pale drab ; tail not forked—*Small Indian Pratincole* (p. 206).

All four toes long, with very long straight claws—JACANAS (p. 207).

1. Tail very short and rounded—*Bronze-winged Jacana* (p. 208).

2. Tail not very short, pointed ; very long in summer—*Pheasant-tailed Jacana* (p. 210).
